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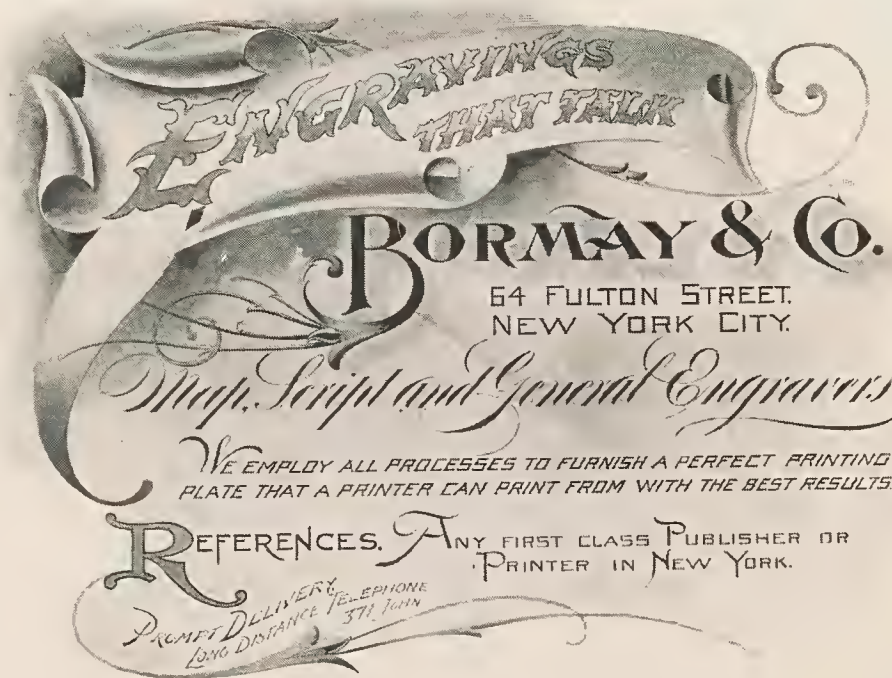
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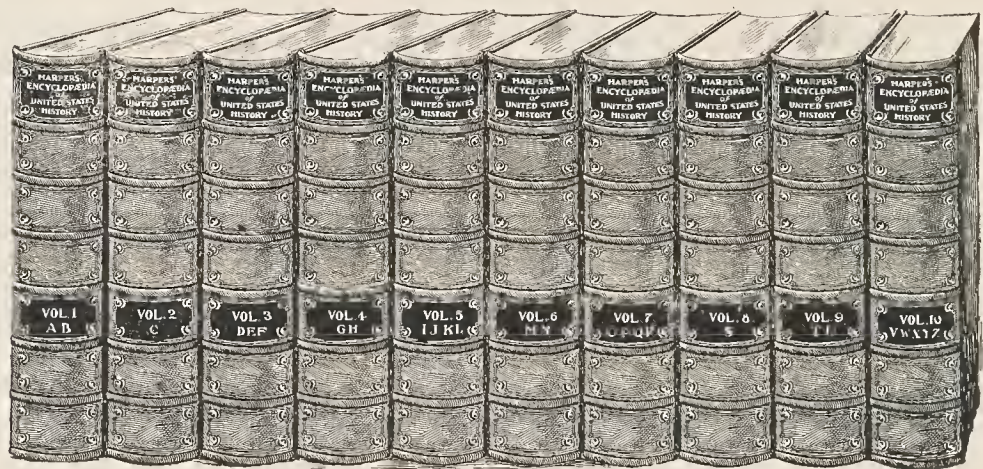
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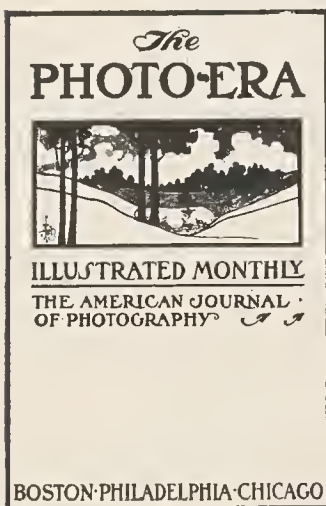
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Vol. I.

MARCH, 1902.

No. 4



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The arch-chemic Sun, so far from us remote,
Produces, with terrestrial humor mixed,
Here in the dark so many precious things
Of color glorious and effect so rare.

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Villa's
Resurrection,
Campo Santo,
Genoa.



"Look at His face, that face divine
Shining with life and light;
The conflict past, Death crushed at last,
And passed the night."

An Easter Pilgrimage



CATHEDRAL
OF SALISBURY.

to English Cathedrals

LOUISE KAY.

A PLACE of Christian worship, even of the humblest kind, is unalterably associated in our minds with its *raison-d'être*,—the sinless life, the vicarious death and the glorious resurrection of the Christ. And it is at Easter—Easter with its comforting significance and joyful anthems and flower-laden altars—that the story of the manger, and the cross and the sepulchre seem most impressive. Then we understand why martyrdom was endured; how the crusades were possible; why the best art of all times has gone to the adorning of His temples, called by whatever name you will; and how the great churches and cathedrals of the Old World, built through the centuries of succeeding generations, a tribute of love and praise, came into existence.

But, unlike modern churches, these same cathedrals have a secular history as variegated and interesting as that of the country of which they are so intimate a part. So closely are they associated with a long line of builders; so much a part and parcel of the founder or founders; so wrapped about with the political and religious spirit of successive *regimes*, that the very stones might be called pages on which may be read a chapter—or a volume—in the history of a nation, or the biography of a princely house, or the record of strife and intrigue, of unseemly friction between Church and State, of the fading glory of kings and the

transient power of priests, and of the evanescence of renown.

In our little pilgrimage to English cathedrals, the Canterbury Cathedral attracts us first, since Canterbury was the first royal city of German England, as well as the first Christian city.

To many of us Canterbury Cathedral means the shrine of Thomas à Becket, and the shrine of Thomas à Becket, Canterbury Cathedral. No doubt he *was* an inconvenient and troublesome archbishop and an unmanageable subject, but whatever he went into he went into with all his heart. Successively he filled, with glory and renown to himself and satisfaction to the king, the positions of courtier, ambassador, chancellor and archbishop—all but the last, and there the royal approbation was wanting. And when we come to the story of his murder, and read how bravely, even grandly, he refused to defend himself against his assassins, being, he said, in the house of God, where to use violence would be profanity, we cannot but admire the proud, imperious will, unshaken even in the face of death, or sympathize with the unhappy king, so unexpectedly taken at his word to be rid of "this man," or to think the four knights severely punished in being excommunicated by the pope (when you think what excommunication meant in those days) and the consequent shunning ever after by their countrymen. It was all a sorry business, but through it came the shrine of St. Thomas, the objective point for many, many years, of pilgrims of all classes and ranks and titles and climes, who traveled long miles that they might worship at the shrine of the martyred prelate and cast thereon, each one, some

treasure he held dear. A mosaic pavement containing signs of the zodiac and emblems of the vices and virtues now marks the spot on which stood the shrine.

Salisbury Cathedral has a more modern—or should one say, a less ancient?—history than that of Canterbury, the foundations being laid in 1220, almost three hundred years before the discovery of America. The story goes that there were once two doors in the great transepts of this beautiful cathedral, both north and south, and in times of sadness, such as Lent, the clergy with their attendants would walk in procession from the choir and out through the south door, make a circuit of the cathedral and adjoining cemetery and return through the north door—that of cold and shadow. In times of joy, like Easter, the course was reversed, the procession passing out of the north door, and returning through the south, that of warmth and sunlight and beauty.

Among the tablets and monuments erected in the transepts to the memory of the honored dead, the one commemorating the death of Dr. John Thomas, sometime Bishop of Salisbury, who died at the age of eighty-five, attracts our attention. This intrepid prelate married four times, and evidently cherished hopes of becoming a bridegroom yet once more, for he caused to be engraved in the wedding ring of the fourth Mrs. Thomas this pleasing announcement: "If I survive, I'll make it five." We are left in doubt as to whether or not the lady accommodated him by an early demise.

Two old, time-stained, service-worn flags, fast falling into tatters, hang in the south transept of Salisbury Cathedral. To us they are of peculiar interest, as they commemorate the war of 1812. We are glad to think, as we leave the cathedral, that between England and America there is now sound peace and good will; and remembering, as has been said, that the great belong to no one country or time, but to all countries for all times, we can feel almost a sense of possession in the tombs of the great men and the good men, in the memorials of war, of defeat and victory, which are a part of cathedral furnishings, if the expression may be permitted. And as for the war trophies, let us hope that they are but the milestones along national roads which will lead to a grand Hall of Arbitration and be gradually lost in a lengthening perspective.

If you will go with me now to Exeter Cathedral, as represented in the stereographs, passing beneath the door

"Where dedicated shapes of saints and kings,
Stern faces bleared with immemorial watch,
Looked down benignly grave and seemed to say,
*Ye come and go incessant; we remain
Safe in the hallowed quiets of the past;
Be reverent, ye who flit and are forgot,
Of faith so nobly realized as this.*"

Then when you are in the sanctuary with your head in the hood of the stereoscope, your eyes feasting on the exquisite beauty of the interior, your soul wrapped in an ecstasy of wonderment and delight—while you are to all intents and purposes quite alone beneath what is, perhaps, the most beautiful roof in all England—you will understand Emerson when he says that "The Gothic cathedral is a blossoming in stone, subdued by the insatiable demand of harmony in man. The mountain of granite blooms into an eternal flower, with the lightness and delicate finish, as well as aerial proportions and perspective, of vegetable beauty."

In such a place as this it is hard to take one's eyes from the enchanting view, to tear one's feet, as it were, from the marbled floor. Again and again the eye is attracted to the beautifully carved Episcopal throne, towering almost to the roof, and marvelously put together without the aid of a single nail; to the choir screen, formed by three broad arches with the thirteen niches above filled with scriptural personages painted in oil on stone, said to be among the first oil paintings found in England; and to the organ originally built in 1615 and rebuilt in 1819. The woodwork in the choir cannot fail to impress the observer. It is the product of the brains and hearts of earnest men, whose labors ceased on the earth nearly seven hundred years ago, and whose genius is none the less evident, notwithstanding the fact that many of the carvings are extremely grotesque in character. Here, too, one finds a "Minstrels' Gallery," an arrangement for the accommodation of musicians on high festivals. It is popularly supposed that this gallery owes its construction to a visit of the Black Prince on his return from Gascony with a royal prisoner in the person of the French King, and that, as he entered the cathedral, he was greeted by the singers conspicuously established in the gallery, who with palms and jubilant songs welcomed the returning hero.

But it is Westminster Abbey, after all, that is our Mecca. Westminster! the church of the silent, who, being dead yet speak! The exterior, beautiful as it is most certainly is, does not constitute its greatest attraction. For within the glory comes not so much from fretted roof and carved woods and sculptured marbles and painted windows, as from the illustrious dead who, during their lifetime, brought honor and renown to England, and whom in death England has honored by interment within the walls of her Walhalla. And yet let no mistake be made, the interior of Westminster is beautiful, sweetly, grandly beautiful.

To enter it for the first time is like stepping within the portals of a "house not made with hands, eternal in the heavens." Something of this initial rush of surprise and gladness, which comes to one when this vision of architectural loveliness bursts upon the sight, can be gotten from a



Cloisters of Canterbury Cathedral where Thomas à Becket was Murdered.

fine stereograph of the interior. It shows a suggestion of the high, arched roof, and the gorgeously resplendent window beyond the choir. And how clearly the fine carved work of the choir screen stands out! The organ, which you notice on either side of the screen, is modern, as are also the altar and reredos. The latter is of red and white alabaster, while in the niche on either side is a statue of St. Peter and St. Paul. Here also is an interesting picture of The Last Supper, done in fine Venetian glass mosaic.

If, in these spring days, you and I were standing together in the dim religious light of the venerable Abbey, we would turn with considerable interest, and not a little curiosity from the splendor of the altar, to the old, rudely carved, but famous Coronation Chair; and, as we do so, we call to mind that, from the time of William the Conqueror to the present, every reigning sovereign of England has received the crown beneath the roof of Westminster Abbey. But it is only since the reign of Edward the First, that this chair has been in use. Under the seat is the famous Stone of Scone, said to have been once used by the patriarch Jacob as a pillow, which you may believe or not as you please. At any rate, Edward brought this piece of sandstone into England from Scotland in 1297, as a token of the complete subjugation of that country, since from time immemorial Scottish kings had been crowned upon it. On coronation day, in June, the chair will be covered with gold brocade and taken into the choir.

To enumerate the names of all the great men and women—and others not so great—who either lie buried in Westminster Abbey, or have memorials erected there to their memory, would simply serve to call to mind that with which we are all familiar: the Poets' Corner, the Chapel of Edward the Confessor, the Chantry of Henry the Fifth (with the headless effigy of the king, which, being of solid silver, proved too great a temptation for some one—some say it was stolen during the reign of Henry the Eighth, others that Cromwell was responsible for the theft, and again others affirm the "Merrie Monarch" knew better than any other the manner and cause of its disappearance;)

the innumerable tablets and monuments everywhere surrounded by this bewildering array of royal burial vaults, and celebrated memorials. It is with feelings of pleasure that an American catches sight of the sweet face of his beloved Longfellow, and of the strong, cultured features of our Ambassador Lowell,

"New England's home-bred scholar; well he knew
Her soil, her people, through and through:
And loved them with a love that holds
All fond, sweet memories in its fragrant folds."

But among the ashes of earth's great ones are to be seen signs of very earthly passions, as for instance, in the chapel of St. John the Baptist, where the tomb of Thomas Cecil, Earl of Exeter, and Privy Councillor under James the First, has a conspicuous place. His wife lies on his right hand, but the place on his left is vacant, because his second wife for whom it was designed, declined to be buried there, as the place of honor on the right had been assigned to her predecessor. In contrast to this is the generosity and sacrifice of Benjamin Disraeli, who, it is said, was not buried in Westminster Abbey, because he had promised two women—his wife and his wife's and his own constant friend, Mrs. Willyums, that they three should be buried together.

But, after all, it is because of this very human side, that these cathedrals attract us—these piles of brick and stone and mortar erected by man and monuments to his frailties, his ambitions, his defeats, his triumphs. It is fitting they should become vast sarcophagi for the mortal remains of those, who, great in life, were not less so in death; for the church had its origin in the human life and death of One who crowned both life and death with a glorious resurrection which sheds its light about all tombs, and gave to His followers for all time, that deathless hope and endless joy which reaches its fullest expression on Easter day—Easter, whether celebrated in the vast cathedral, or the less pretentious church or even in the humble pioneer—everywhere the world over in chapel commemoration of that first Resurrection day, two thousand years ago.



Arrival of Prince Henry of Prussia, New York, Feb. 23, 1902.



President Roosevelt and H. R. H. Prince Henry of Prussia.

"HOCH, DER UNCLE SAM"

BY COURTESY OF LESLIE'S WEEKLY. COPYRIGHTED BY JUDGE COMPANY, 1902.

THE Kaiser of the Fatherland
To Brother Heinrich gives command:
"Go now and shake the good right hand
Of Uncle Sam.

"HE has a navy that is fine,
An army, too, that's right in line—
I want him for a friend of mine,
This Uncle Sam.

"THERE'S Johnny Bull, he's quite a lad,
And Mme. France, she's not so bad—
But one that makes them all look sad
Is Uncle Sam.

"WE'LL fly the proud red, white and blue,
We'll whistle 'Yankee Doodle,' too,
And bind the good old ties anew
With Uncle Sam.



Emperor William's Yacht "Meteor" one minute after the launching.



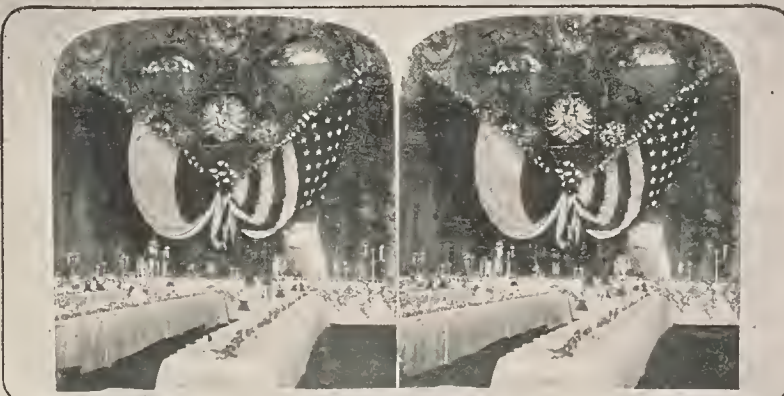
Miss Roosevelt Christening the "Meteor."

"YOU'LL find him honest, frank and free:
The best he has your own shall be,
So make a fair report of me
To Uncle Sam.

"HE raises many things to eat,
Besides, he gets there with both feet—
You'll learn a lot the day you meet
Your Uncle Sam.

"IN peace and war I'd be his friend,
And may his glory have no end—
That is the word I wish to send
To Uncle Sam.

"SO fill your glass up to the brim;
A toast for vigor, dash and vim—
A 'hoch' for me; 'hurrah' for him,
Our Uncle Sam." S. E. KISER.



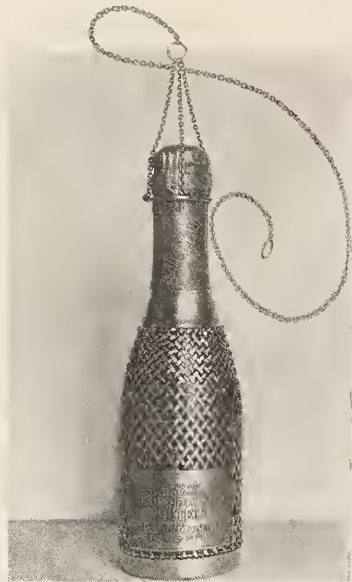
Staats-Zeitung Dinner in Honor of Prince Henry at the Waldorf-Astoria, New York.



Prince Henry and Miss Alice Roosevelt.

THE VISIT OF H. R. H. PRINCE HENRY OF PRUSSIA.

THE EDITOR.



ERHAPS nothing could emphasize more strongly the prominent position which the United States occupy to-day among the world's great nations than the visit of the German Emperor's brother to our shores. He comes as the representative of that great empire which comprises the ancestral home of millions of American citizens, many of whom have contributed largely to the wealth and glory of our Republic.

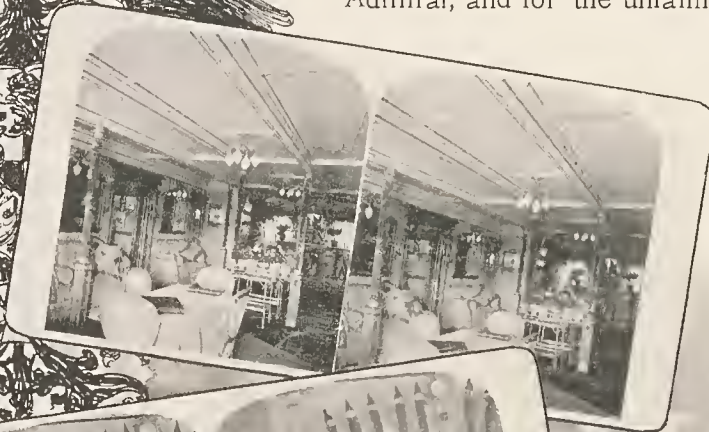
The occasion of his coming was the launching of a schooner yacht which William II. had built in this country, and the naming of which, at the Emperor's request, was by Miss Alice Roosevelt, the daughter of the President.

The fact that the Kaiser has come to this country for a cruising schooner yacht is certainly a high compliment to American skill, for it is well known that his Majesty believes in patronizing home industries. German naval officers expressed surprise when they learned that the yacht was to be built in America, for even when it was known that the Emperor had selected Mr. A. Carey Smith, the American naval architect, to make the plans, they supposed that the vessel would be constructed in Germany. As has been well said, "The truth of the matter was that the Kaiser wanted a saucy Yankee schooner with all that the term implies, Yankee in plan, Yankee in build, with Yankee rig and Yankee sails." This shows that the imperial head is level.

The new yacht is a beautiful craft, a veritable sea-queen, being a work of art as well as of utility. Her lines are as graceful and exquisite as are those of a swan, and she is as staunch and reliable as any craft of her class. She was built by Townsend and Downey, and her hull is constructed of a special type of steel. The hull is one hundred and sixty

feet over all, and one hundred and twenty feet on the water line, with an extreme beam of twenty-seven feet and fifteen feet draught of water. Her lower masts are of Oregon pine—splendid sticks one hundred and five feet long. Her rigging is of the best steel wire, and her broad, snowy sails are of the finest cotton duck. Her deck is of teak wood, brought especially from India, as are her rails, companionways, skylight frames, etc. The interior of the yacht will be fitted up luxuriantly. The main saloon, which is situated amidships, is a splendid apartment twenty by twenty-seven feet. There are five beautiful state rooms, all of which will be superbly decorated; that of the Emperor will be the most richly finished. The trimming of the interior of the yacht is mahogany, artistically carved. Although smaller and of a different type, being a sailing vessel, she will prove a worthy companion to the Kaiser's noble steam yacht, Hohenzollern, which was visited by the publishers and editor of this magazine, at the personal invitation of Admiral Count von Baudissin, who requested a copy of

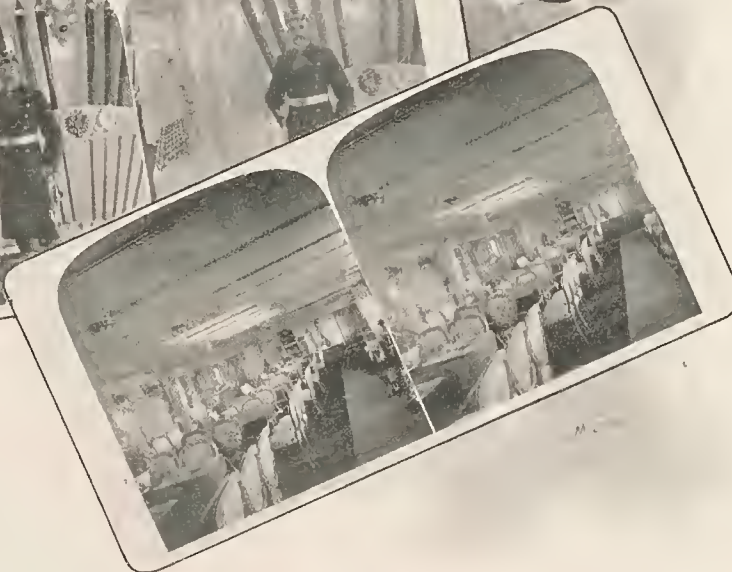
THE STEREOSCOPIC PHOTOGRAPH, and a set of stereographs of the yacht and of Prince Henry's tour, for the Emperor, to whom he promised to present them in person. For the great kindness of the Admiral, and for the unfailing courtesy



Blue Salon
Imperial Yacht
Hohenzollern.



Admiral
Count von Baudissin
of the
Hohenzollern.



Dining Saloon
Yacht
Hohenzollern.

of the other officers of the Hohenzollern, we desire to express our appreciation and gratitude.

One cannot contemplate the brilliant and splendid functions attending the visit of the Prince to America, without wondering at the outcome of it all. Just what results will follow this visit it is impossible to forecast completely, but a few of the more prominent can already be stated with confidence.

First, we can rest assured that the real character of the Emperor of Germany will be better understood in America than it was before. We shall certainly recognize the fact impressed upon us by the Hon. Whitelaw Reid, that "He knows what he thinks and he says it—plain. He knows what he wants, and he goes for it—straight. If these are the marks of an Emperor, they are, at any rate, not so different from some Presidential traits we know, as to keep the most downright of Republicans from respecting and heartily liking them."

A second result will certainly be that the United States will be better understood in Germany. Better understood even by the Emperor, whose knowledge of America is remarkably accurate and comprehensive. He realized, as the *Börsen-Zeitung*, a representative German newspaper, states, that "The economic capacity of the Americans is growing greater and greater, and their share in the achievements, in the technique of scientific work, and in the intellectual life of the civilized world grows larger and larger continually." Along this same line were the words of the Prince at the splendid banquet given by the *Staats-Zeitung* at the Waldorf-Astoria in honor of the royal visitor: "His Majesty, the Emperor, has minutely studied the recent and rapid development of the United States, and His Majesty is well aware of the fact that yours is a fast moving nation. His sending me to this country may, therefore, be looked upon as an act of friendship and courtesy, with the one desire of promoting friendlier relations between Germany and the United States." But wide as was the Emperor's knowledge of American affairs, it will be still more extended and illumined by the reports he will receive from his brother upon his return to the Fatherland. Heretofore German papers have furnished their readers with but meagre news as to American affairs, but during the visit of the Prince they have devoted considerable space in each issue to the functions and festivities that attended this mission. Mayor Low, in speaking of his impressions of Prince Henry, emphasized this fact by saying: "Prince Henry and his suite are looking at America with intelligent eyes, and we shall be better understood and more highly respected in Germany after their return."

A third result will be that the millions of American

citizens of German extraction, many of whom are leaders in society, business and finance, contributing to our literature, music, drama and art, broadening and deepening our intellectual life, will feel the unifying influence of the land of their ancestry, and will develop a love for the Fatherland, which may prove a potential factor in shaping our foreign policy in years to come; for it would be impossible to overestimate the important consequences both to Germany and America from such a fellowship. Under Bismarck, the German-American was regarded by the Home Government with but little favor, frequently with hostility, and if he had evaded military service his life was rendered miserable when he returned to the land of his birth; but under the enlightened policy of William II. all this is changed, and the coming of the Prince will tend to draw the mighty German host in America closer together, and will kindle anew their devotion to the Homeland, and this without weakening their loyalty to the great Republic, of whose citizenship they are so justly proud.

A fourth and noteworthy effect of this visit is that it will be remembered as a conservator of amity and a guarantee of peace. Struggle in the field of commerce, industry and art there must ever be, and civilization is benefited thereby, but the desolations of war are appalling. A thorough understanding and mutual good will between Germany and the United States will do much to preserve the peace of the world.

In these days of brilliant receptions and unparalleled festivities, let no one say that our enthusiastic demonstrations are due to our having become enamored with the monarchies of the Old World. Most certainly not! We are too much in love with our own republican history, and with the immortal founders of this great nation—too loyal to our democratic institutions and the starry banner to admit of such a possibility. Our ardent welcome and our genuine hospitality spring rather from our recognition of the brotherhood of nations as well as of men, and our firm conviction that with nations, as with individuals, the one that has the fewest enemies and the greatest number of friends is the most fortunate; and believing this, we all heartily subscribe to the words of Charles W. Knapp, spoken at the *Staats-Zeitung* banquet: "We Americans welcome the knowledge that has come to us recently, that in war as in peace, we can trust the Hohenzollern. We cannot overestimate the influence of Germany in holding the concert of Europe," and he might have added, in securing the peace of the whole world. In such a glorious consummation, the part played by Prince Henry of Prussia is a leading one, for a more sincere, cordial, unaffected man, notwithstanding his royal rank, never visited a foreign country.



EGYPT

PART III.

THE STORY OF EGYPT.

CHARLES N. CREWDSON,

Corresponding Secretary of the Chicago Society of Egyptian Research.

I HAVE already spoken of the land and of the people of Egypt; let us now trace something of its history.

The sources for this history are very scant and fragmentary; yet they have enabled us to get an intelligent comprehension of the main periods. Among the Greek accounts of Egypt the most interesting and important are those of Herodotus and Strabo, who in their time travelled in the Nile valley and left us the record of what they saw. They are not fully nor everywhere authentic, yet much which they recorded has been verified by other evidences. An Egyptian priest, named Manetho, compiled a whole history of the Pharaohs down to the fourth century B. C. He wrote in the Greek language, but his work has been lost with the exception of a few quotations in Josephus and Eusebius. We should have had a complete list of the Egyptian kings had not some one so carelessly packed a precious papyrus list of them which was broken into fragments on the way from Egypt to Turin, and which it was impossible to piece together again. The papyrus which formerly grew in the marshes of the Delta is, when prepared as paper, much like an untrimmed palm-leaf fan in appearance and texture. Most ancient documents of Egypt were written on it. With age the leaves become very dry and are easily broken, and thus it was that the precious Turin papyrus suffered such great injury on its journey to Italy. The best historical source is the inscriptions, written on tombstones and monuments. Many of these are merely fragmentary. Imagine what a difficult task it would be to construct, hundreds of years after its political dissolution, say, the history of England, from the hearsay of people, from scraps of some one book, from crumbled tombstones and tumbled over monuments, and you will understand what a difficult task Egyptologists have had in constructing the history of this country.



For the casual reader of the annals of Ancient Egypt one thing is very fortunate,—he does not have to bother his head about dates. He does not need to remember the Ides of March or any particular Olympiad. In the prehistoric period, for example the period before Menes, while our knowledge is merely conjectural in many respects, we possess some facts as to what were probably the political conditions of the time. The land was divided into two parts, a kingdom of the Delta or the North, with the Delta city, Buto, as its capital, and a kingdom of the River Valley or the South, with Nekhen, opposite modern Elkab, as its chief city. The king of the northland or the Delta, wore a red crown bearing on its front a serpent, while the ruler of the South or Upper Egypt appeared in his court wearing a white crown, with a representation of a vulture over his head. Each of these two kingdoms was really an amalgamation or union of smaller districts, prehistoric principedoms, called *nomes*, in each of which some noble family was dominant.

While digging recently at Negada, just a little above Thebes, Prof. W. M. F. Petrie unearthed the remains of what he at first called a "new race," a people which he thought non-Egyptian. He found bodies interred in a contracted posture, surrounded by pots filled with food. But as he found neither hieroglyphics nor that the bodies were embalmed, two marked characteristics of Egyptian tombs, he seemed justified in concluding that these remains were not those of Egyptians. Discoveries at Abydos the next winter convinced him, and others, that this so-called "new race" was simply an older race in the Nile Valley, for with these same burials later excavators discovered hieroglyphic writing. These are the first Egyptians of whom we know anything. Whence they came and

Wall in the
Temple of Seti I.,
Abydos.



Temple, Sphinx
and Pyramid of
Cheops.



Statue of
Rameses the Great,
Site of Ancient
Memphis.



The Broken
Obelisk of
Karnak.



Famous Hall
of Pillars,
Temple of Karnak.



Colossi of
Memnon, Thebes.



VERITABLE WINDOWS TO THE
HISTORY OF ANCIENT EGYPT.

what was their political organization we do not know, but they must reach back to a period five thousand years before Christ.

The first political organization which united all Egypt, combining the kingdoms of the North and the South, was, according to tradition, the work of Menes, the first king of the first dynasty. It is interesting to note that his tomb was discovered only two years ago. Manetho in making a historical outline divided the rulers of Egypt into thirty-one dynasties. By a dynasty he meant a family of successive kings, just as we speak of the family of the Stuarts or the Tudors.

In gaining a comprehensive picture of the history of Ancient Egypt, we have to remember these chief facts: there are only three periods of which we have any record of great consequence; these periods are known as the Old, the Middle and the New Empires. The Old Empire embraces the fourth to the sixth dynasties, the time of the great pyramid builders; the Middle Empire corresponds to the twelfth dynasty (with something of the eleventh and thirteenth); and the eighteenth, nineteenth and twentieth dynasties compose the New Empire. With the exception of knowing something of the first king Menes and of some scattered names, the first three dynasties are practically a blank. Chronology is merely approximate. The latest possible dates are 2830 to 2530 B. C. for the Old Empire; 2130 to 1930 B. C. for the Middle Empire, and 1530 to 1050 B. C. for the New Empire. These dates can never be made any later, but those for the Old and the Middle Empire may yet be pushed back many centuries by new discoveries.

The first great kings of the Old Empire ruled on the Lower River and built their enormous tombs, the great pyramids near Gizeh, opposite Cairo. These kings were Khufu, popularly known as Cheops, Chephren and Menkheres. They ruled with absolute power, and the resources of the land were sufficient to bring Egyptian art to its highest perfection. The tomb paintings and reliefs of the day are among the best that we have. The pyramids themselves attest the great architectural skill and the enormous industrial resources of the Old Empire.

But in the sixth dynasty the union, which Menes had probably effected, began to disintegrate, and from this time until late in the eleventh dynasty we know little of Egyptian history. We can dimly see the local noblemen engaged in civil conflict, each one attempting to make himself pharaoh or king. Naturally such political confusion left behind no sufficient monuments to tell us of its details. In the twelfth dynasty Amenemhet I. succeeded in reuniting the country and restoring order and peace, and founding the Middle Empire. His residence was in the

Fayum, the fertile oasis alongside the Nile valley fifty miles south of the Delta, on the west shore, of which we have spoken in an earlier article. His successors conquered the Nubians for two hundred miles up the river above the first cataract, and developed the internal resources of Egypt as the earlier kings were not able to do. The greatest work of the dynasty, perhaps, was the construction of the so-called Lake Moeris, of which Herodotus tells us. This work recovered twenty thousand acres of the flooded Fayum by building a retrenchment wall twenty miles long. Dr. Borchardt thinks this same king was the builder of the Sphinx.

With the thirteenth dynasty internal conflicts between the local nobles again threw the country into anarchy, during which the Nile valley was invaded by Asiatics whom Josephus calls the Hyksos. They were doubtless not a people of very high culture. They introduced the horse into Egypt and taught the Egyptians warfare. After an uncertain period of time they were expelled by a Theban family of kings, who founded the New Empire about 1600 B. C. Now follow the great conquerors of Egyptian history, among whom Thotmes III, the Napoleon of Egypt, was chief. Under these men Syria and the whole eastern coast of the Mediterranean on the north and Nubia and the Upper Nile Valley on the south, were made tributary to Egypt. This period of splendor and of power undermined the Egyptian character very distinctly. Nevertheless it was just at this time that the king with the noblest ideals for the nation lived. Nearly all the world known to Egypt was now united under one power, and the king to whom we refer, Amenemhotep IV., came gradually to see that as one man, viz., himself, controlled so vast a domain, so also might one god do the same thing in the world of religion. In the attempt to carry out this idea by practical measures he revolutionized the state religion of Egypt. He even changed his own name from Amenemhotep to Ekheneten (which means brightness or spirit of the sun) and removed from the traditional capitol at Thebes to Tel-el-amarna.

On the death of this great iconoclast his dynasty was unable to stand longer, and the greatest family of Egypt fell, the Ammonite priests at Thebes gaining control of the royal family and of the religion. With the nineteenth dynasty the country is already in a steady decline. Rameses II., the greatest king of the dynasty, passed sixty-seven years on the throne, and warred for nearly twenty years in a vain effort to recover the conquests of his fathers in Syria. His name appears on the larger proportion of the remaining monuments in Egypt, but it is a question whether he built all of the temples which bear his name, although he was doubtless the greatest

builder of the New Empire, at Karnak, Luxor, Abydos, Memphis, Bubastis and elsewhere. It is to this dynasty that Seti II. belongs, who was long thought to be the Pharaoh of the Exodus, but since his body was discovered in a tomb of Thebes those who would have had him drowned in the Red Sea are naturally discomfited.

The priests of Ammon who had assisted in overthrowing the great reformer Amenemhotep IV., were now supreme, and held the kings of the twentieth dynasty firmly in their control. With the fall of the twentieth dynasty they even put their high priests upon the throne of the Pharaohs. In the confusion which follows this act, the Ethiopians gradually pushed southward and finally conquered Egypt, until they were cast out by Esarhaddon, King of Assyria. The only glimmer of Egypt's former glory is to be discerned during the twenty-sixth dynasty, sometimes called the Egyptian Renaissance. Psamtik at this time shook off the Assyrian yoke, and, for a short while, the people of the Nile enjoyed great prosperity. Numerous Greeks now entered the country, introducing much of Greek language and civilization. Necho, the son of Psamtik, slew the Jewish King Josiah on the plain of Megiddo. He it was who projected the canal from the Red Sea to the Nile. This work was finished by Darius, who in 525 B. C. led the victorious Persian armies into Egypt. The Persians continued to rule until the Græco-Roman period.

Greek domination began with the stroke of a sword and was ended with the sting of a serpent. Alexander was the conqueror of Egypt; Cleopatra its vanquished queen. Between these two illustrious personages from 332 B. C. to 30 A. D., Egypt was ruled first by gifted and brilliant Greek sovereigns, for the early Ptolemies were good kings. They made the people once more prosperous. The best preserved temple in Egypt, that at Edfu, was built by Ptolemy XIII., but later the descendants of the earlier Ptolemies became unutterably vicious and engaged in horrible fratricidal wars. These wars were only ended by the death of the wittiest and wisest of all queens, Cleopatra.

After her fall the Romans gained control of Egypt until 640 A. D., when the Crescent came in to drive out the Cross. Egypt had been thoroughly Christianized by the end of the second century, A. D. But the religion of Mohammed was destined to be the religion of Egypt and remain so until the present day, although still there are ten per cent. of native Christians called Copts; and this notwithstanding severe persecutions inflicted upon them by the Moslems. Under El-Mahmudi Muaiyad, in the fifteenth century, the Christians and Jews were both punished. This ruler made the former wear blue clothes and black turbans, and forced them to go about carrying about their necks wooden crosses weighing five pounds. The

Jews had to wear yellow clothes and black turbans and carry heavy black iron balls hanging around them.

With the more modern history of Egypt we are all familiar. After the conquest of the country by the Turks in the early sixteenth century, they governed the country until Napoleon came to the land of the pyramids in 1798. After the French invasion Mohammed Ali, a self-made upstart of the highest ability, was on a fair way to free the country from Turkey and to subjugate Syria, when he was stopped in his remarkable career by the European powers. Mohammed Ali's descendants are the present Khedivial or vice-royal family of Egypt. Since 1882 this family of vice-kings have been virtually under the control of the British, who, at present, practically conduct the administration.

Upon this rapid shifting of the political and the historical scene, from 3000 B. C. to 1902 A. D., the pyramids of Gizeh outside Cairo have looked mutely down, but as these have to do with the religion rather than the history of Egypt, I shall defer saying anything about them until another time.

EDITOR'S NOTE.—This article has been preceded in the two foregoing numbers by two others from the same author, to wit: "The Land of Egypt" and "The People of Egypt." It will be followed by "The Religion of the Egyptians," which is now in preparation by Mr. Crewdson. This article last referred to will close the series.

A WOMAN'S STEREOSCOPIC JUDGMENT.

IT has been said that however much in common a man and woman may have in life, however close they grow in affection and in purpose, one remains masculine and the other feminine to the last. Try as they will to see things out of the same eyes, things insist on looking unlike to them. The combination of the masculine and feminine points of view gives a result similar to that produced by the stereoscope. You look at a picture through a magnifying glass, and you get only two dimensions—length and breadth—but through the stereoscope you get length and breadth and depth, because through the two glasses of the instrument you are looking at a picture taken from points of view separated by the distance between your eyes. One often notices the third dimension in the judgment of a man who can consult freely about his plans and purposes with a sensible wife. He will get from her what no man can give him—namely, the feminine point of view, which modifies, corrects, and imparts the third dimension to his own. Men sometimes say that it is useless to take a woman's judgment, because they cannot put before her all the facts necessary. Put before a sensible woman the outline view of a situation and her judgment about it is worth having. If you know all the facts, that is enough. What you want is the stereoscopic effect, and the opinion of a well-balanced, sympathetic woman will give you that. The better she knows you and the more dearly she loves you, the wiser her judgment. Talk it over with your wife.—*Watchman*.

A SUNDAY SCHOOL EXPERIMENT.

BY ELIZABETH KEELER VANDERPOEL.

I WAS utterly discouraged over that class, and yet they were not bad boys. I knew there must be some key to their elusive minds, but I had never been able to find it. I read all the "Helps" of which I knew. I ransacked our public library for interesting supplementary matter. But as likely as not Bert and Walter would start a friendly scuffle at their end of the settee just when I was trying to make one of my best points. Harvey, who really was a clever boy for his twelve years, seemed to forget everything he heard between one Sunday and the next; and Davis ingeniously confided to me one day that *he* wouldn't come to Sunday School at all if it wasn't that his father made him come,—promised to lick him if he played hookey!

That was one Sunday when we had a lesson on Abram and Lot and the ancient division of the territory. I had honestly tried my best to make it interesting, comparing the movement with other picturesque emigrations, from DeQuincey's *Tartar Tribe* down to the Oklahoma scramble; but the weather was hot and the lesson seemed dry, even to me; and, as I have said, I was well nigh hopeless over the whole situation. That night I woke myself out of a sound sleep by saying aloud "Now Harvey, *please!*—Bert, turn around directly and put your feet down." The next day I went away for my summer vacation, leaving kind Mrs. Disbrow my blessing and a pile of assorted Quarterlies (she had consented to take the class for a month), and I truly resolved not to give one thought to those dreadful boys until September. The resolution met with the same fate as many a resolution much more virtuous;—the fact is, I thought a great deal about the boys. And this is what happened:

Several things worked together to give me the idea. For one thing, I visited Quebec for the first time. You may not see how that had anything to do with Sunday School methods, but it had—a great deal. Of course, I already knew the history associated with Quebec, at least I knew something of it, in the vague, general way in which most of us know our history; but when I actually stood on the Plains of Abraham, and when I looked down over the rail of Dufferin Terrace into the crooked lanes and clumsy chimneys of the Lower Town, cuddled in close to the foot of the mountain,—and when I saw the quaint, lop-sided square beside the little old church, the square where they used to sell for slaves the captives brought from New England during the French-and-Indian wars,—then, I assure you, the dry bones of my poor, perfunctory readings in Canadian history began to call for flesh to clothe them.

A friend at our hotel had *The Seats of the Mighty* and *A Chance Acquaintance*. I borrowed them both and ran through them again when I ought to have been abed and asleep, reviewing my memories of their charm and finding they meant twice as much as they had ever meant before, as I had at last some actual, personal experience of the old town on which to graft the impressions of what I read.

Then, when our further journey took us through Boston, I spent one long, rainy day in my cousin John's library, reading solid history of the French and English in Canada, and making notes of various books that I meant to read later, as soon as I could find the time.

I was thinking it over the day we left Boston, when another thing happened. We met a delightful woman on the Boston and Albany train. She was an enthusiast in Bible study and was on her way to some convention or conference at Moody's old home in Northfield. I said to her how much I wished there were some way to make Bible lands real. Boys get tired of merely seeing photographs and little black-and-white prints. If only we could take our classes on pilgrimages to Palestine!

Then this new acquaintance told me about the classified stereographs—views made for study through the stereoscope. She said so much about their excellence and about the value of a book on Palestine, published in connection with them, that, when we reached New York, I went to the address she gave me and looked up the material. It did seem promising; so I sternly turned my face away from some tempting mid-summer bargains in the dry-goods shops, and carried away, instead, one hundred views of Palestine and a stereoscope.

When we reached home, I spent two days making my own journey through the Holy Land with Dr. Hurlbut's book for a guide. I would never have supposed any experience with prints and lenses could be so vividly like being in a distant land. I began to feel genuine courage about that class of boys. It was when I thought of our Superintendent that my courage weakened; he is a conservative man who likes to have things done with very orderly uniformity, and I was afraid he might not like to have me "let up" at all on the regular *International Lesson* sequence. However, destiny was on my side. I went to call on Mr. Abbott and asked him somewhat timorously if he would let me try travelling through Palestine with the boys and taking our Bible lessons (for a while) as we went along,—that is, according to the locality.

"You may do anything you like, Miss Vanderpoel," he said, almost eagerly. "You may read them *Kim* by install-

ments, if you choose. Only just keep them from going through the roof during the session!" (I learned afterwards, when I went to see Mrs. Disbrow, that she had been ill the Sunday before and that he had to take the class himself.)

Next Sunday I went armed with my new ordnance—the stereoscope and half a dozen of the stereographs. By the way, I found very soon that two would be quite enough for any one day. Bert was away that Sunday, but the others were in their places as usual. I had some Indian trifles for them from Quebec and they were really very glad to see me.

I told them that I had enjoyed my vacation journey so much I meant to keep on travelling for several months more; that I had "found a way," and that, if they liked, they might go with me. Were they ready? Yes, they were; for they scented something unusual in the air.

We took a map of Eurasia and located the eastern end of the Mediterranean sea, up against the shores of Palestine. Then I said that good harbors were few and far between; that our best place to land would be at Jaffa. I had the stereoscope all ready, and gave it to Walter with the first view. It is one where you look from the deck of

east. Why didn't the steamer go "way in to the wharf? Lots of people would be afraid to go ashore in a boat."

I let Harvey read part of the explanatory comments in the little guide-book, and then Walter identified the ragged black lines in the distant water as reefs. Of course the large vessel could not go in.

But by this time the other boys were feeling that they ought to have a chance at that fascinating compound of lenses and slides. I let Davis take the stereoscope and had Walter go on with the explanatory text, reading it aloud. By and by we ran up against a reference to Acts IX that none of them knew. Harvey looked that up.

"Do you mean that the Dorcas who made coats and things lived there? My mother said the sewing society was named for a Bible woman, but I never supposed she really lived anywhere in particular. What kind of houses do they have in Jaffa? Can you see any of 'em near to?"

I told them that we could go on into the town itself and see the people living there to-day. In fact I could take them to a house so old it *may* have stood there when Peter went visiting the tanner, almost nineteen hundred years ago.

"The society my aunt Hattie belongs to think the Dearborn house is pretty old" said Walter, "but that's only about a hundred; and it's sort of tumbling down, too."

Harvey was meditating.

"Once I read about Richard the Lion-Hearted," he said. "Richard and the King of France went on a crusade and they got mad while they were over here and it didn't amount to so very much but there was a lot of fighting. And they built a wall around Jaffa to keep the Saracens out. Is this the same Jaffa? Do you suppose Richard ever was right here on a ship and looked at the city over there on the hill where it is now?"

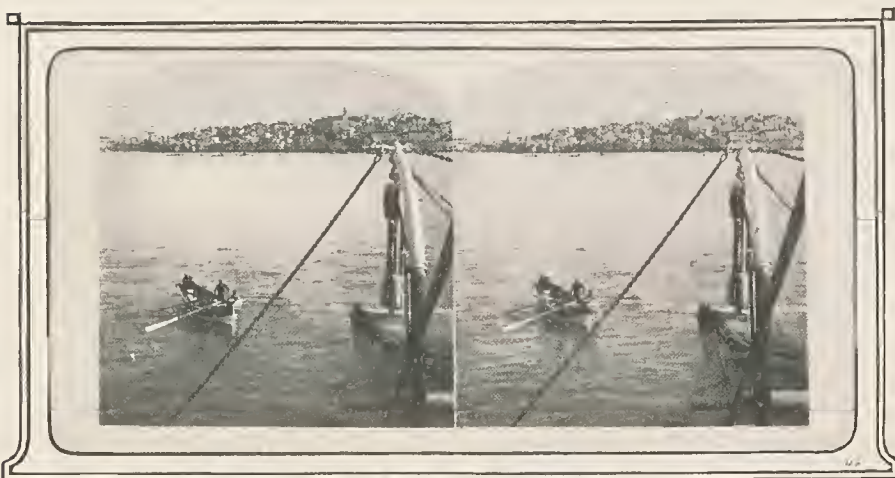
Sleepy Harvey was actually waking up. I knew he read English history; but I had really forgotten King Richard, myself, till he reminded me of the old chronicle.

"What d'ye mean by a crusade?" growled Walter.

Harvey waked to brilliancy then. He gave us a really spirited account of the Third Crusade. He loves stories of battle, and, when he forgets his habitual laziness he talks well. When he finished it was with a promise to lend Walter *The Talisman*; and all three of the boys were searching the Eurasian map trying to trace Richard's homeward way to England.

We had barely time for one good look at the people in the Jaffa Bazaar before Mr. Abbott's bell sounded for the close of the lesson. The experiment was at least partially successful. The boys had been so interested they had not thought of "punching" each other or piling up the

Jaffa from
the Sea.



a steamer, anchored off Jaffa. You see the town half a mile or so away, straight ahead of you, and you see a boat's crew pulling out to meet the steamer and transfer passengers. It took an instant to adjust the slide to suit Walter's eyes, and I had to show him how to sit with the light falling on the view. Then:

"Cracky! Say, Miss Vanderpoel! Is that Jaffa? What are those darkies comin' for?"

I set Davis and Harvey to looking for the exact location of Jaffa on the general map of Palestine at the end of the Hurlbut volume, and showed them what the red lines tell about the direction in which one is looking. The ingenuity of the map system happened to appeal to them at once. They answered Walter's query about the location. Why—this was the Mediterranean, sure. You were looking south-

service books into monuments or doing any of the other things that usually made my life a burden. I was not sure how far we had entered into any distinctly scriptural atmosphere of feeling. Our thought had been too scattered to count for much. But our faces did seem to be set in a promising direction.

To cut a long tale short, I will say that we have gradually brought the travel-study down to a reasonably definite basis, though I still mean to let the boys make side excursions of reminiscence and fancy if they like. Bert was told about the new plan for our lessons and he came prepared to really have a good time. Then Tom Eldridge, who had dropped out of the ranks a year before, came back and asked me to take him in once more.

Fortunately, for the present, there are only five in the class (six, including myself.) I am not quite sure just how I should plan such work for a larger number, though I do believe it could be managed some way. We have found we can never use more than two stereographs in any one lesson. Often we have spent a whole session over a single view and found the time allowance too short. I find that one essential to success is managing to keep all the boys busy at once. Somebody reads aloud while another uses the stereoscope. Two can usually be occupied in looking up Bible references. The map-locations give another something for which to be responsible.

When Christmas came, we had not actually reached Bethlehem, according to the route laid out by the sequence of stereographs, but we studied the Bethlehem views and then went back, afterwards, to see the intervening places.

Now that I feel sure of my hold on the boys, I am asking them to hunt up additional bits of information. I give them memoranda of books in the public library and they have done some creditable work now and then. They all have a good deal of home work to do on their week-day lessons, and I am afraid of over-crowding the matter; but the Crusaders, for instance, have made them willing to do some real studying. The boys are beginning to feel that Palestine is just as real a place as the State they live in. They feel that they know for themselves something about the way in which farming languishes under the greedy taxation of Turkish officials. Then one Sunday we had a lively discussion about the comparative probabilities of the *two* possible hills of the crucifixion—the one within the city wall and the other just outside the city on the north.

"Pooh!" said Davis with the characteristic scorn of one archæologist for another, "I don't care if that old queen Helena did have a vision, I just believe *that's* the hill,—the one outside. Why, you can see for yourself it's 'the place of a skull.' Just look at those eye-sockets and the broken



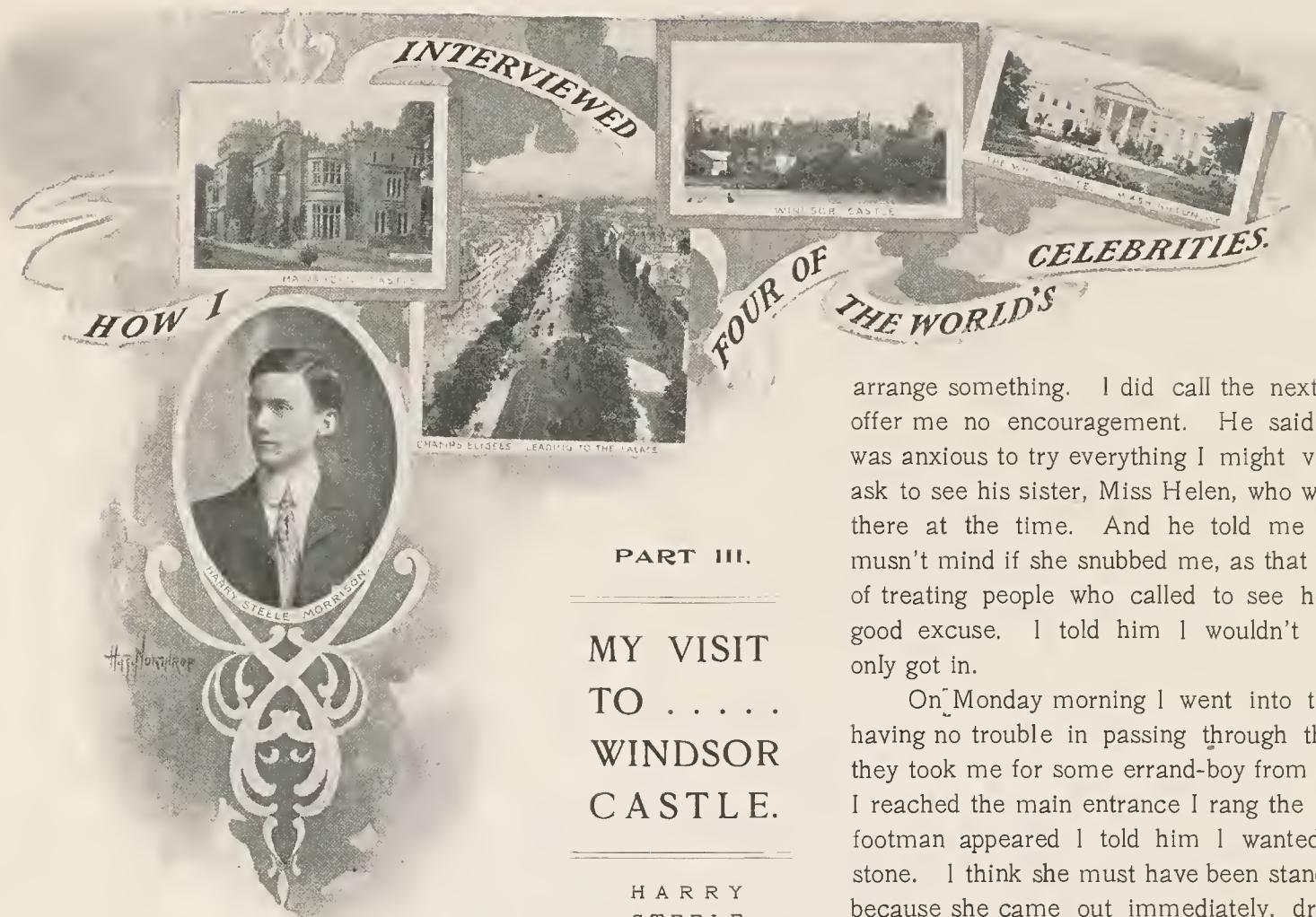
The Hill of Calvary, outside Damascus Gate, Jerusalem.

kind of beginning of a nose. I just bet that's the place."

Perhaps I ought not to allow them to talk slang about so serious a subject, but I confess I uttered not a word of reproof. Davis meant nothing really disrespectful. It was only his rough, boyish way of putting a thing energetically. The fact is, I am so thankful to see them beginning to think of the storied places as real parts of this solid earth—just as real as the streets where they go to school—that I ignore some inappropriateness of phrase. What I am trying to do just now is to lead them through their direct, personal experience of being in the Holy Land, just as I had my personal experience of being in Canada. Another year I do believe there will be something in their boyish minds on which to build.

AN AUTHORITATIVE COMMENDATION.

The December number of THE STEREOSCOPIC PHOTOGRAPH is by far the best of the series, and, with its wealth of binocular illustrations and well-chosen articles, should play a great part in stimulating interest in stereoscopy. One article in particular is off the beaten track. It is by Mr. F. V. Cornish, and it tells how the writer used the stereoscope for class teaching at an East End school. If Mr. Cornish can be instrumental in persuading our educational authorities that in the study of solid objects stereoscopic photography is capable of rendering very high service, he will have advanced the cause of progress. The other articles in the number before us are of great interest, particularly the one on the use of the stereoscope in medicine, from which we gave a lengthy extract in last week's JOURNAL. There are some extremely high-falutin references to President Roosevelt, which too cold-blooded Englishmen, like ourselves, quite fail to appreciate, but in all other respects "THE STEREOSCOPIC PHOTOGRAPH for December is admirable.—*British Journal of Photography, January 10th, 1902.*



PART III.

MY VISIT TO WINDSOR CASTLE.

HARRY
STEELE
MORRISON

I REACHED the quaint little village of Hawarden, near Chester, one Saturday evening, and remained there four days before I at last secured an interview with Mr. Gladstone. They were four days of continuous effort, and had I not already promised the interview to the American editors, I would have been tempted to give up in despair and return to London. The "Grand Old Man" had not been well for some time, and the servants at the castle seemed determined that no one should get at him on any pretext whatsoever.

The first thing I did on arrival was to call and see Mr. Stephen Gladstone, who is rector of the Episcopal church at Hawarden, and the eldest of the sons now living. I found him delightful to meet and pleasant to talk with. He seemed interested in hearing about my experiences on my trip, and said that he would be glad if he were able to help me. But he thought it no use to try and introduce me to his father. He said that only the previous day he had taken an American bishop to the Castle, feeling sure he would be received, and after he arrived with him his father sent out word that it would be impossible. "And," he added, "I don't think it likely that he'll see a boy, when he refuses admittance to a well-known bishop." The outlook was certainly discouraging from this point of view. Mr. Stephen told me to call again and in the meantime he would try and

arrange something. I did call the next day, but he could offer me no encouragement. He said, however, that if I was anxious to try everything I might visit the Castle and ask to see his sister, Miss Helen, who was managing things there at the time. And he told me in advance that I mustn't mind if she snubbed me, as that was a way she had of treating people who called to see her father without a good excuse. I told him I wouldn't mind the snub if I only got in.

On Monday morning I went into the Castle grounds, having no trouble in passing through the gate. I suppose they took me for some errand-boy from the village. When I reached the main entrance I rang the bell, and when the footman appeared I told him I wanted to see Miss Gladstone. I think she must have been standing in the hallway, because she came out immediately, dressed in a homely bicycle costume, and looking as if she didn't like being disturbed. She asked who I was and where I was from and what I wanted. I told her that I was the boy who had written down from London, asking for an interview, and I realized at once that she must have been the "Secretary" who answered my first letter, for she seemed angry to think that I had come down after she had said that it would be of no use. "You might as well have remained in London and saved your carfare," she exclaimed, and then went off into the Castle and left me standing there. I couldn't help feeling hurt that she should give me no opportunity to explain my desire, and I called after her that I would return the next day.

I returned to the village feeling greatly disheartened. That afternoon I talked with some of the people in the neighborhood, and one old lady told me some things which encouraged me very much. She said that when everything else failed Mrs. Gladstone was often able to arrange audiences for people with her husband, and she advised me to ask for her when I visited the Castle next day. I decided to act upon her suggestion, and when I went again I asked for Mrs. Gladstone instead of for Miss Helen, as before.

After a time I was ushered into her presence, and after a few words I showed her the clipping from the New York Evening World containing the account of my proposed trip and the imaginary picture of me interviewing Mr. Gladstone at the Castle. This was examined with much interest, and

finally Mrs. Gladstone said that she thought if Mr. Gladstone would see me, it would at least be a *change* for him. She went into the library, and when she came out again she said that I might go in if I would promise not to stay long. I was of course quite willing to promise that.

I found Mr. Gladstone seated in a large arm chair at the far end of the library. He had a shawl about his shoulders, and cushions about him in the chair, and altogether he looked so feeble that I could hardly believe that this was the man whose pictures I had seen so often in the newspapers. He was very cordial, holding out his hand for me to take, and asking me to bring a chair up close to his, as he was rather deaf, and couldn't hear me if I sat far away. He then began to ask me questions about my experiences on my trip, and my object in coming so far away from home, and in fact he interviewed me a great deal more than I interviewed him. He seemed to take a sort of fatherly interest in me, so I kept nothing back, and told him all that I hoped to accomplish before going back to America. He, in turn, told me something of his early life and experiences, and said a great many things which inspired me to greater effort in the following months. I was very deeply impressed with his conversation and with his appearance. He was one great man in whom I wasn't disappointed in the least, and I finally left him feeling that if I accomplished nothing else during my stay abroad, this interview with England's greatest man was worth the washing of dishes and all the hard experiences through which I had passed. To be in Mr. Gladstone's presence and to hear him tell of his boyhood experiences was a privilege many people would have given much money to obtain, and he had granted it to me simply because I had persevered in trying to see him. For he said that he had been told of the efforts I had been making to secure the audience.

I remained much longer than I was supposed to stay when I went in. Mr. Gladstone talked of one thing and another, and asked me what my plans were for the future. Miss Helen came in at one time and suggested that it was about time for me to go, but he said I might remain longer, and of course I was only too glad to do so. When I at last started to go he said that if he could do anything to aid me while I was in England I mustn't hesitate to let him know, and he would be glad to comply with my wishes, if possible. He seemed very earnest in saying this, and I made up my mind to tell him how anxious I was to see the Queen, and to ask him to help me in that. So I told him that I had been trying for several weeks to find out how I might see her, and that I had finally come to the conclusion that it would be impossible without an introduction from some person of influence. Mr. Gladstone laughed softly. "That is a very high ambition," he said, "and one which is com-

mon to a great many people. I don't know whether it will be possible for you to secure the audience, but I think if the people at the Castle knew of some of your experiences they would admit you out of curiosity. All that I can do is to give you a note of introduction to Lord Lathom, the Chamberlain, who will be able to get you in if any person can."

So it happened that when I returned to London I had the letter to the Lord Chamberlain, and one of the first things I did was to go to his office and present it. I found him to be a very old man, apparently hard to interest, and with very little to say. He took my letter, read it through twice, with great care, and told me to come back in three days' time. "I will then be able to say whether I can do anything for you," he explained, and I left him, feeling that he certainly wasn't much interested, and that he probably wouldn't exert himself to secure me a presentation.

During the intervening days, until it was time for me to return for my answer, my discouragement was increased by conversations with various friends in London. When I told them that I hoped to see the Queen they all laughed at me, and when the third day came around again I hardly felt it was worth while for me to call for the answer, as I was sure it would be unfavorable. I went, however, at the appointed time, and to my surprise and delight Lord Lathom announced that if I would be at the Castle the next afternoon at two o'clock he would probably be able to have me see the Queen. I could scarcely believe my ears, for the news seemed almost too good to be true. I thanked him in a few words and went away to think over my good fortune and get ready for the great event. I was afterward surprised to remember that he had told me nothing about what I ought to wear, and that he had laid down no rules for my conduct on the visit. I was sorry he hadn't done this, for from what I had read I supposed that people had to wear certain things and do certain things, and I hadn't any idea what those things were. I became so worried because of the uncertainty that the next morning I went to the Guildhall Library and took out a book on Court etiquette. This book, however, told me so many things which should be done, that I saw it would be quite impossible for me to conform to the rules, so I went out to Windsor that afternoon wearing a little suit that I had paid five dollars for in a Chicago department store. And I am sure they were all better pleased than if I had attempted anything in the way of dress and ceremony.

When I reached the Castle I was somewhat disappointed at the absence of ceremony there, not that I expected there would be any on my account, but because I always supposed things were done according to rule in the homes of royalty. There weren't many soldiers visible,

and there was a lack of liveried servants which I couldn't understand. The Chamberlain himself was dressed in ordinary afternoon dress, and he made no remarks concerning my appearance. I followed him, after my entrance, through several large rooms and halls which were more beautifully furnished than any I had ever seen before, and finally he asked me to be seated in a sort of ante-room while he left me for a time. He remained away several minutes, and upon his return he held open a door and asked me to step inside.

I had no idea when I stepped into that next room that I would find myself at once in the presence of the Queen, but she was the first person I saw. She was seated near a window, and looked very much like her published photographs with the exception that she had a more pleasant expression on her face than I had ever seen in one of them. With her in the room were her daughter, the Princess Beatrice, and her grand-daughter, the Princess Victoria of Wales, and they all looked so much like the Englishwomen I had been seeing for several weeks that I made up my mind I had nothing to be afraid of, after all. They were dressed in very simple costumes, and seemed anxious to make me feel at my ease. The Princess Beatrice carried on most of the conversation, and I stood before them and answered questions. I had to tell them about washing dishes, and being sea-sick, and what I had been seeing and doing in London. I lost my embarrassment after a few moments and told them frankly my ideas of everything. They seemed to enjoy the occasion, and I'm sure they got more amusement out of the interview than I did, for of course I couldn't forget the fact that I was standing in the presence of Queen Victoria, and that was enough to make me feel uncomfortable. The audience lasted about six or seven minutes. Before I went out the Queen said she hoped I would continue to meet with success, and I promised them that I would send them a copy of my book describing the trip, when it was published. I managed to retire from the room stepping backward, and felt relieved when it was all over. I was shown through some of the interesting rooms in the Castle, and that evening, upon my return to London, I went back to the little inn where I was working for my room and board, and the next morning I was up at five o'clock to make the fires.

After seeing Mr. Gladstone and being received at the Castle, it was much easier for me to see other famous people than it had previously been. Short accounts of my success at Hawarden were published in the London papers, and served as introductions for me in many places. I hunted up about all the great men and women I could find, and sometimes wrote interviews with them which I sold to the London papers. They didn't pay me much for what I

wrote, but I earned enough to defray my expenses in England and Scotland, and when I was finally ready to leave for the Continent I had forty-five dollars, instead of the twenty-five with which I had arrived.

I had been sending articles to two American papers, and knew that they had used them, because I saw them in print. I was always expecting the money in payment for them, but it never came, and when I was about to leave London for my Continental trip I told my friends to forward my mail to a certain office in Paris. I thought I could perhaps make my forty-five dollars last me through Belgium, Holland, Germany and Switzerland, and when I reached Paris this money would come in very nicely. If I had known more about distances and expenses on the Continent I would have wanted a great deal more money with which to start, but I had lived very cheaply in England, and I thought I could keep it up in other countries. It was fortunate that I didn't mind hardship, for there was much of it in store for me.

I took passage one night from London to Ostend (in Belgium) on a freight steamer, because this was a cheaper way to travel than by the passenger boats via Dover. The freighter's captain seemed confident that we would reach our destination at eight o'clock in the morning, but he didn't take the Channel fogs into account, and we didn't reach the Belgian port until about midnight of the next day. We were made to disembark, and I found myself in a queer predicament. I could not speak a word of the French language, and I didn't know how to go about getting a bed at such a late hour. The hotels would be too expensive, and my only hope was that I could find some peasant awake, and make him understand by signs that I was sleepy and wanted a bed. I started through the streets and found that on account of some celebration a great many people were still up. I finally came to an old lady seated on her doorstep and went up to her and began to make signs. I rubbed my eyes with my fists and laid my head on my arm, trying to make her understand that I was sleepy and wanted a bed, and I am afraid that she at first thought me some lunatic escaped from an asylum. She got up and went into the house, and after a few moments came out with pencil and paper. She wrote down the price of the bed, and as it was very little money, I accepted. She secured a candle and conducted me upstairs to one of the queerest little old rooms I had ever seen, and when I undressed I found that the bed was so high from the floor I had to take a run and a jump to get into it, but once in, I soon became unconscious of my surroundings and fell into a refreshing sleep.

[EDITOR'S NOTE.—Mr. Morrison's next article in this series will be entitled "*An Audience with Two Presidents.*"]

A BULL FIGHT IN OLD SEVILLE



H. F. MAKERN,

Author of "Side-Lights on the March."

WHILE Spain is doubtless one of the most unprogressive countries in Europe, she is nevertheless working out her own destiny, slowly it is true, but quite surely. As the well-wisher of these most hospitable and courteous people looks about him and here and there notes with satisfaction steps of advancement, his hopes for their future seem to be somewhat discouraged when his thoughts turn to their national sport and pastime—the Bull Fight.

It is difficult to say whether to-day, on the threshold of the twentieth century, the bull fight is as popular in Spain as ever.

Dissenting views and those expressive of condemnation, are heard from time to time, but they are so few, that they are drowned in the great thirst of this bloody vortex.

The bull fight had its birth in the days of chivalry and knight-hood, and many a cavalier of noble lineage has wet the arena of the plaza with his blood, his only protection against the furious onslaughts of the bull being his strong arm and trusty lance, guided by a skillful eye. The sport became the privileged recreation of the nobility, and no great festival was complete without it. Among those of highest rank who exposed their royal persons to danger can be mentioned Charles V. and Pizzaro, the conqueror of Peru; while nearly all the monarchs since the days of the Cid have lent their patronage to the art. About the middle of the eighteenth century, the passion spread to the common people and to the famed toreador, Francisco Romero de Ronda, must be credited the spectacle as seen to-day. It was he who introduced the idea of meeting the bull face to face on foot and killing him with his sword; it was he who invented the rules which guide the sport. Isabella I. (1481-1504) and Charles III. (1759-1788) were the only monarchs who endeavored to stem the popular rush of enthusiasm which to-day has become national, but their efforts were as futile as are those of the present Queen Regent. There are now over two hundred *Plazas de Toros* (bull rings) in Spain, and some twelve hundred bulls, valued at \$300,000, and about fifty-five hundred horses, worth about \$100,000, are dedicated annually to this popular exhibition.

Here we are in Seville, Seville the gay, where life seems to be one continued

joke. It is the first bull fight of the season and a great exhibition is promised, for the most renowned toreadors in Spain, Mazantini, Fuentes and Bombita, are all here, while picked bulls from the famous herds of the Duke of Veragua and Senor Miura are penned in the darkened *toril* (bull pens) awaiting to test Spanish vaunted courage.

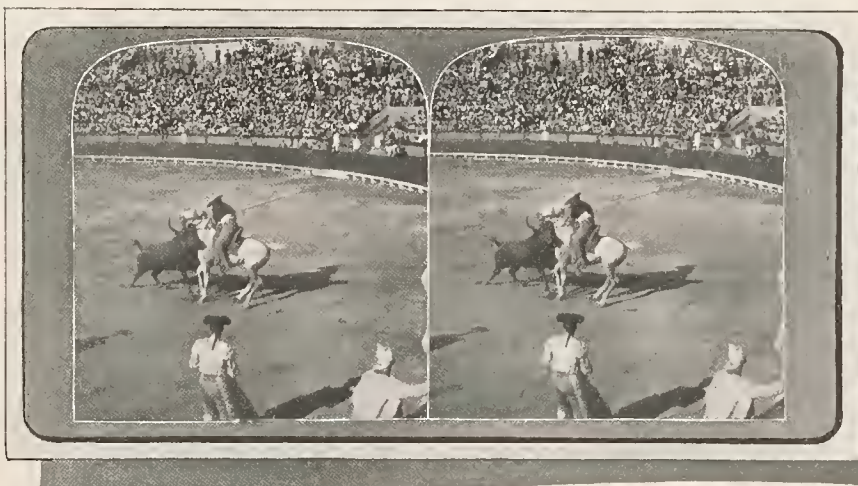
These are great days in Seville. The narrow and winding streets of the old town are thronged until late at night with a happy, good-natured crowd from many climes, all attracted to this center by the religious processions of Holy Week, the Fair, and last, but by no means least, the bull fights. There are thousands and thousands of people from all parts of Spain; and here and there, every now and again, mingling with the native crowd, the representatives of other nationalities to this great congress of joyous *abandonne* are conspicuously noticeable.

The day and hour of the opening bull fight has arrived. It is the first Sunday after Easter. The streets leading to the *Plaza de Toros* are thronged with people. The crowd overlaps the pavements and risks being run down by the hundreds of vehicles of all descriptions, from the magnificently appointed turnouts of the aristocracy to the rickety bus, with its razor-backed mules, of the lower classes. The Plaza itself looks like a hive, and high above the voices of the jostling crowd rise the cries of the water and orange venders. Every fifty yards are stationed mounted pickets of the Guardia Civil to maintain order. All is life and bustle as the numerous big doors drink in the sea of humanity.

The horses stand in their stalls contentedly munching hay, little dreaming of the horrible fate that awaits them; true, their miserable condition clearly indicates that their days of usefulness have gone by; but what an end! Nearby stand their more fortunate companions, four well-fed mules, all caparisoned with the gay colors of Spain, who will later drag out the mangled, lifeless carcasses of their neighbors.

Farther on we come to the *toril*, but our curiosity here is not gratified, as each bull is confined in a dark pen and carefully guarded against any interference.

Our attention is now attracted by a brilliant group standing apart by itself. As we approach my friend tells me it is Mazantini, the most famous bull fighter in Spain, and his assistants, *cuadrilla*. The hero's costume, together



The Picador Attacked by the Bull.

with those of the *capeadores* (who infuriate the bull with their red cloaks), and the *bandarilleros* (the dart placers), are very gorgeous; the rich embroideries, galloons, and fringes in orange, scarlet and blue, the myriads of little spangles and trinkets of gold and silver almost cover their dress. Silk stockings envelope their well-shapen limbs, while a black fur cap hides from view their dark hair, closely cut, with the exception of a bunch which is allowed to grow long, and worn tied up in a knot behind. The *picador* (lancer), having to receive the roughest part of the bull's rushes, is dressed differently. He is clad in a pair of breeches of yellow buffalo hide, padded and lined with strips of iron. On his head he wears a low broad-brimmed hat, in his hand he carries a long lance, strong, and with a short dull steel point, and he is mounted on one of the unfortunate horses we have before noted, the right eye of the animal being blindfolded in order that he may not see the bull when he rushes on.

As I looked at this group I could not but admire their *sang froid* and apparent indifference to a fate that possibly might await them, though the probability is much eliminated by the high state of efficiency to which each has attained in his art. Years ago, when accidents were more frequent, a chapel, with its priests, was always kept in readiness in order that the valiant sons of the plaza could confess before encountering the bull, or receive absolution in their last moments.

I was disturbed from my reverie by my friend reminding me that we had better get to our seats. We enter the circus. What a noise! what a sight! It sounds as though fifteen thousand howling dervishes had been turned loose. A sea of humanity packed in a solid mass encircles the whole arena from the first row up to the topmost. Confused phantoms of the great arena at Rome in the days of Nero rises up before me. My ears seem to strain themselves to hear the inspiring music from Bizet's "Carmen." At last we make our way up and down steps through crowded corridors and jostling crowds to our seats.

A calmer view of the great spectacle is now afforded me. The arena, large enough to comfortably hold a brigade of cavalry, is circled by a barrier about five feet high, to the inside of which is fastened a ledge about two and a half feet from the ground on which the bull fighters place their feet and vault over when hotly pursued by the bull. An outer barrier, somewhat higher and about eight feet distant from the first, forms a run around the whole. Here stand the toreadors who are awaiting their next turn, a few guards, the servants and carpenters and the gentlemen with a "pull." But sometimes the bull leaps over the first barrier, and then there is a scampering for places of safety, especially among the gentlemen already alluded to. Those who can do so get behind small barriers erected for the purpose, others leap into the arena, and meanwhile the bull runs around until he finds the door, which is immediately opened to again let him into the arena. The seats are made of stone and are only divided by a black painted line, and indicated by a number. They rise in tiers to the boxes, under which there is a gallery with more seating capacity.

The whole is divided into two sections, *sombra* and *sol* (shade and sun); the former, being the more expensive, are occupied by the better class of people, the latter by the lower class.

This being the first "*corrida*" of the season, the circus is taxed to its utmost capacity. There are sixteen thousand people there. Magnificent and inspiring as the sight is, one cannot help imagining what it must have been in the old days of costume. What an added charm the brilliant and varied colors of the holiday-attired throng must then have lent to it! But even to-day, much as the conventional European dress has sombered the effect, here

and there a group of "*senoritas*," their heads crowned with the graceful *mantilla*, their shoulders draped with the beautifully silk-embroidered *manton*, can be seen among the crowd, their first appearance always causing an ovation of applause from the groups of gallant *cursi* (dudes).

The trumpets sound. The band strikes up a march, but its martial notes are drowned in the shouts, yells, and cheers of the people, as the procession of bull-fighters, in a double file, enter the arena, followed by the attendants and the mule team. All proudly cross the arena to the *Alcalde's* (mayor's) box. It is an inspiring sight. In one grand picture we have all the colors of the rainbow, the magnificence of a royal court, the gayety of a troupe of masqueraders, and the martial effect of a band of warriors. They stop, salute and quietly break away to their stations. The trumpet sounds again and two heralds, dressed in the style of the fourteenth century, ride forward and ask permission of the *Alcalde* to allow the bull to enter. He throws them the key of the pen and then they retire rapidly.

The two *picadores* have meanwhile stationed themselves near the barrier some twenty yards on each side of the door of the bull pen; the *capeadores* stand some distance apart on the opposite side. The shrill notes of the trumpets ring out once more. All is silence. It is a moment of intense expectancy and excitement. Instinctively you pull yourself together. The door is thrown open and out rushes a tremendous bull. A thunder of applause and a deafening acclaim from thousands of throats greet his entry. "What a beauty!" "What a head!" "Look at his neck!" "A fearless bull!" are the excited comments all around. The bull, at first dazed by the bright light, the yells of the multitude, and his strange surroundings, stops and surveys the situation. It does not take him long to comprehend what is expected of him. Just then he sees a *capeador* cautiously advancing, waving his red cloak. With a snort, and a toss of the head, the bull springs forward and makes a wild rush. It looks as though the man would be tossed in midair. You hold your breath,—but only an instant, as nothing more substantial than the cloak meets the charge, while the nimble *capeador* steps aside, gracefully dragging his cloak behind him. The animal, enraged, madly plunges forward, only to be again cheated by another *capeador*; and so this clever but dangerous sport continues for about ten minutes. At a blast from the trumpets the *picador* spurs forward his miserable steed, which up to now has been kept away from the bull by the *capeador*. The brute's fury having been aroused, the red cloaks no longer inviting him to mad charges, he sees the *picador*, and with a bound rushes on. It is a fearful moment. The blood in your veins comes and goes rapidly. You draw back—you lean forward—you know not what to do. Your eyes are fastened to the spot; you try to avert your gaze. You cannot. Oh, horrors! The bull has plunged his horn into the side of the horse, a stream of blood rushes down the foreleg of the animal and splutters over the shoulders of the bull. The *picador* braces himself and tries to push the animal off, but in vain! The smell of blood has added to his frenzy, and he buries his horn the deeper, ripping open the entire side of the horse. The horse falls over, the man under him. He must be crushed, trampled and gored to death. You close your eyes, but you cannot keep them so, you *must* look. Just then a brave *capeador* fairly risks his life to save his comrade and flaunts his cloak in the bull's face, a most daring act at such close quarters. The bull, attracted by something new, rushes at him, but as before he steps aside uninjured, and smiles in return to the howl of cheers that rend the air. Then as the poor horse, by kicks and pokes, is made to rise, a revolting sight greets you. You turn away, but its impression lingers, and a

sickening sensation creeps over you. But relief comes. One of the attendants quickly and dexterously drives a small dagger into the brain of the poor beast and his misery is ended. It is well that the strongest man should have his nerves well strung when he sees, for the first time, this cruel butchery of man's most faithful helper and friend. And these people call it sport, grand! magnificent! But we are not Spaniards. The custom is not bred in the bone with us, and there lies the difference.

But to return to the fight. The *picador* has been lifted to his feet, not because his bones are crushed or, indeed, that he is in any way hurt (though sometimes he is most seriously injured). It is on account of the iron strips on the legs of his breeches that he cannot pick himself up without aid.

Another horse is brought forward, and another, and yet another. In fifteen minutes five carcasses surround the arena, evidences of the bull's insatiate fury. The arena looks like a deserted battle-field.

Another blast from the trumpets announces the next act. But you are deafened by a mighty roar like a clap of thunder. Ten thousand people are on their feet, yelling and shouting at the top of their voice, waving their arms and shaking their sticks at the *Alcalde's* box. I did not understand. I asked my friend. "What do they want?" I said. "More horses," he answered. Great heavens, what people! more butchery, more blood! But the saints be praised! The *Alcalde* is firm and resolute; the public appeal is denied, and the *banderilleros* advance amid a storm of hisses.

This is one of the prettiest and most artistic of all the acts. The man stands in the middle of the arena with two barbed darts about twenty inches long, covered with vari-colored paper. He holds them by the unpointed ends straight out in front of him from the shoulders. In this attitude, with both feet firmly planted together, he taunts the bull to come on. The bull dashes toward him; the *banderillero* runs forward, plants the darts in his neck, one on each side, and with a lightning whirl saves himself. The bull, goaded to frenzy, tosses his head, bellows, and sometimes vents his rage on the dead carcasses of the horses. Another clarion signal from the *Alcalde's* box, and the *espada* (swordsman) steps forward, holding in his hand a long, two-edged sword of Toledo's most trusty steel, and the *muleta* (a red silk cloth on a stick); with the other he salutes the *Alcalde*, and in some appropriate, poetic phrase dedicates the bull to the glory of Spain. Wheeling on his heel, he tosses his cap into the air, as though to bid defiance to the fates, and boldly advances towards the bull, followed by his *capeadores*. And now ensues a duel to the death. The man playing and parrying for a moment of vantage to drive home his deadly thrust. The bull in his slow, stupid way watches for an opportunity to rush the man, to gore and trample him to death. The brute presents a fearful sight, with the blood streaming from the dart wounds on his shoulders, his sides covered with sweat, his eyes, full of dull and sullen rage, starting from their sockets, his breath coming thick and fast through a mouth dripping with foam. The *espada* seems too venturesome and is about to take too great a risk. Advice and suggestions come from thousands of voices, for every man in the vast audience is a self-imagined critic and expert. After the bull has made some futile charges, he stands still and remains square

on his feet. Now is the *espada's* opportunity. The supreme moment arrives. Sixteen thousand people rise to their feet. All is silence. The *espada* braces himself, raises his sword level with his shoulder and aims. At the same instant, each dashes at the other. Who will conquer? Ah, the *toreador's* aim is true! His nerve, steady! Like lightning, he plunges the sword in the neck of the bull, clear up to the hilt, its point burying itself in the heart. A torrent of blood gushes from the bull's mouth, his legs double under him, and he topples over—dead.

Nothing can describe the chaos that now ensues. Everybody jumps to his feet, shouting and cheering and yelling at the top of his voice. The air is filled with hats, cigars and flowers, as the *espada*, bowing and smiling to the audience, makes the round of the arena, while his *capeadores* hurl back to the spectators the hundreds of hats, and gather the cigars and flowers. Meantime the mule team has been driven into the arena; first the dead bull and then the carcasses of the horses are dragged out at a furious pace. The attendants clear away every vestige of the carnage, the band stops, the trumpets sound, and a fresh bull is admitted. And so this great Spanish spectacle of skill, valor and artistic butchery continues until six bulls have been dispatched, and as many horses have been consecrated to the fury of the animal.

After the death of the sixth bull, a curious scene takes place. The men and boys of the lower class jump over the barrier, and the arena is immediately filled with them. Many gather round the dead bull and view him with awe, and the lucky ones carry away the *banderillos* that are stuck in the animal's neck, while some of the youthful element dip their fingers in the bull's blood—presumably to give them courage.

The exit from the bull fight presents an even more animated scene than did the approach. The many wide doors give out their streams of people; hundreds of vehicles are there, and liveried footmen stand about waiting to direct their masters to their carriages. The runners for the cheap busses are calling out their fare to this place and that. There are people, people and people as far as you can see. But the storm of emotion has spent itself, and all is quiet. The vast throng seem to wish to shrink away quietly,—some to their homes, most to the cafés, where the *corrida* is again gone over and washed down with good coffee and copious draughts of manzanilla, a kind of sherry.

Such is the bull fight to-day in Spain; but words fail to describe the thousand and one incidents that happen, never twice alike, and the changing emotions one experiences in viewing for the first time this world-famous and world-criticised spectacle. Yet notwithstanding the elements of barbarity and grotesqueness that enter into this national pastime, and in spite of the fact that it tends to give a somber hue to an otherwise gay and pleasure-loving city, in the hearts of all who visit it, the old German saying ever remains true that "Whom the gods love, they give a house in Seville." For to live in this quaint old city—this city of ceaseless mirth and almost oriental splendor; to share in its rich and varied life; to listen to its wild, exhilarating music, and to mingle with its careless, joyous multitudes, is to make real one of life's brightest, gladdest dreams:



STUDENT LIFE IN ENGLISH AND AMERICAN UNIVERSITIES.

FRANK V. CORNISH, M. S., LONDON, ENGLAND.

BEFORE long the American college man will be asking himself what he will do after the final examinations are over.

England will have more American visitors than ever in June on account of the coronation. Since each year an increasing number of American students, many of them self-supporting, cross the sea to pursue post-graduate studies and to broaden their foundation for their future life-work, (but, unfortunately, few come to England or Scotland), perhaps a word about the differences between student life in the United States and Canada, as compared with student life in the Mother Country, may be pertinent.

American university students who undertake to maintain themselves at their studies, form a large percentage of the enrollment. A student of Oxford told me recently that he knew of but one man of the three thousand native undergraduates of that institution who let it be known that he was in a measure self-sustaining. American students come from almost every walk in life, probably not more than one-tenth of them being sons and daughters of those engaged in the so-called learned professions, while almost all of the men at Oxford and Cambridge come of this class. It is estimated that the parents of one-fifth of the American students in universities are merchants or manufacturers, but an Oxonian would not often like to admit that many of his classmates sprang from shopkeepers.

The State of California, with its million and a half of people, boasts of an enrollment in its university larger than Oxford, yet California was not in existence until 1850, and its university was not founded until about a quarter of a century later. Stanford University, in the same State, established within the last twenty years by the munificence of Senator Stanford with his estate of twenty-five million dollars, has already an attendance almost equal to Cambridge; yet both these English institutions have been founded for centuries—some Oxford men allowing themselves to date the beginning of their alma mater back as far as Alfred the Great.

That American universities do for their students what the great English universities accomplish is, unfortunately, not possible, for a good many reasons. In the first place the Englishman who looks forward to sending his son to Oxford or Cambridge does not like the idea of having him educated in the sense in which this is understood in America. He wants him to become a gentleman, and he is not disappointed when the boy comes out ready for the responsibilities of public life or useful citizenship. American institutions of higher learning cannot be expected to have the delightful "*esprit de corps*" of the venerable models in England, and, besides this, the American faculty strives to develop thinkers, and does less for the social side, in which the English university man is so far superior. On the other hand, very little encouragement is offered in Oxford or Cambridge for original work after the Bachelor's degree is conferred, and here is a striking contrast between them and the German and French institutions. Americans who go abroad to study after graduation, therefore, find on the Continent a system of education more in accordance with their wants. Very few of them come to study in England, where, naturally, there is so much more in common in language, literature, institutions, customs, laws, history and, I may add, ancestry. The Cambridge man taunts his Oxford brother with too much devotion to the Classics and points to the scientific course offered in his own uni-

versity, maintaining that its more modern ideals have produced a greater number of inventive and original thinkers; but the Oxford man answers that the social and political leaders of the country are mainly from his proud list. The four great Scottish Universities have some of the American tendency of furnishing practical education along technical lines and at less expense to the student, but I was both surprised and amused last summer at a young Scotchman of university training who declared that Dr. Carnegie was doing more harm than good in his efforts to lessen the fees of poor Scottish students by his princely gift of ten million dollars; he did not object to Americans becoming wealthy if they would not undertake with their acquired riches to inculcate American notions into Great Britain. He is by no means alone in the belief that it is dangerous, and perhaps vitally wrong, to bestow upon universities endowments so common and so much welcomed in America. High schools do not have free tuition in England and most people think they ought not—much less should universities offer free instruction.

In spite of these differences of opinion with reference to higher education, Englishmen usually are interested in the American plan. Germany has proved what can be done for her industrial development through her technical schools. The Hon. Joseph Chamberlain, at the dedication of the University of Birmingham last summer, emphasized the importance of meeting this need in the United Kingdom, and his sentiments were endorsed by the English press generally. London University is acquiring a standard of useful scholarship, which it has earned largely through its efficient development of practical courses within reach of poor students. American universities were originally modelled after the English ones, but were subjected to the French influences after the Revolution. German ideas began to get a strong hold half a century later and have continued to prevail until American institutions resemble the German in many respects, certainly more than they do their original English models. Great Britain and the United States and Canada are going to know each other better, however, during the coming years. Students fitting themselves to be leaders in American life will find an understanding of conditions in the United Kingdom, as well as those on the Continent, more necessary and useful than it has ever been in the past. As the American student is able to follow his studies on his own account, so is he able to travel with less means than an English student could do, because he is not hindered by the class restrictions imposed in the mother Country.

Americans are welcomed in England everywhere, and I believe there is no enterprise which promises more to the wide awake American student than a few months in Great Britain before taking up the business or profession which is to be his life work in the community he selects. If he may not enter an English university, he should find out what he can of Great Britain by visiting the island and becoming acquainted with the people who are the most anxious to be our friends and who are the most likely to have mutual interests with us. The small expense should not stand in the way of the resourceful student who has made his own expenses through college: he is not likely in his later life to be better able to spare the time required. It is one of the opportunities which may be easily let slip, but one not to be regretted if taken at the tide.

AN UP-TO-DATE AND MODEL COUNTY SUPERINTENDENT.

PROF. EDWIN BEBOUT, Principal of Lincoln High School, New Jersey.

IN the remarkable educational movements of these progressive days, when the endowments of our higher schools of learning are annually increased by millions of dollars, it is a matter of sincere congratulation that the efficiency of our educators has kept pace with these unparalleled benefactions. If this were otherwise, the bestowal of vast sums of money for the founding and maintenance of great educational institutions would be, at best, but a doubtful blessing. To give ten millions of dollars to found a university is an act of marvelous generosity, but what would prove even more remarkable in its beneficent results, would be the finding of the right sort of a *man* to take charge of such an institution when founded, the man who could infuse the might and magnetism of a splendid personality into every department of its work; and a man of this sort is even more difficult to find than is the endowment.

Now, without in the least disparaging the importance of universities and colleges, it yet remains true that these higher institutions of learning could be dispensed with far better than could the common schools of the land, the schools which afford the children of the Republic the fundamental and indispensable elements of a practical education. Moreover, it is also to be remembered that, if anywhere, we need the best teachers—the men and the women who are endowed with the faculty of imparting knowledge—and the best apparatus as well, in these public schools, which form the broad foundation of our whole educational system, since poor teaching and inadequate appliances at the top would be even less disastrous in their consequences than at the foundation. It is therefore a matter for considerable congratulation, and one that speaks well for the future of our country, that the administrative and teaching force of our public schools is composed of so many men and women who are inspirational and efficient in their work.

Among the vast army of teachers who have contributed to the power and glory of our public school system, I know of none who has been more successful in his work, than Mr. John Terhune, superintendent of public schools for Bergen County, New Jersey. He was educated at the New Jersey State Normal School and Eastman's Com-



Supt. Terhune's "Educational Hall," showing sets of Stereographs on library table.

mercial College, Poughkeepsie, N. Y. He is an expert accountant and a beautiful penman.

Appointed county superintendent in 1886, he has labored early and late in lifting his schools to a more thorough, systematic and higher plane. His corps of teachers has increased from one hundred and thirty-three to three hundred and eighty, and the number of buildings from sixty-seven to one hundred and nine.

In 1891 Superintendent Terhune undertook to establish a pedagogical library for the teachers of his county. He drew an act to secure State aid, which was passed by the Legislature and approved by the Governor. With this appropriation he continued to add to the four branches of his professional library—located in different sections of the county so as to be easy of access for the teachers—until now it contains 1548 volumes of standard works in science, history, art and psychology. It was the first, and it is now by far the largest, in the State. To show how it was appreciated by them, the teachers of the county presented him with a beautiful gold watch and chain.

During the reconstruction of the county buildings in 1894, Supt. Terhune secured a large room over the Surrogate's apartments for an office. It was the first county superintendent's office in the State, and it is admired by educators from all sections, who say they have never met anything to approach it in all their travels. It contains

fourteen cabinets filled with school work, representing nearly every school in the county. There are two large tables with educational appliances of various sorts, including sets of stereoscopic tours and numerous educational sets of stereographs; also one branch of the teachers' library and the model school library of 1800 volumes. The walls are covered with portraits of patriots, poets, statesmen, works of art and other scenes as an object lesson in school decoration for which the schools of the county are noted.

Mr. Terhune is a firm believer in plenty of good books for home reading, and, with but one exception, every school in the county has a well-selected library. These libraries in the rural sections contain books suitable for the parents and residents, and take the place of circulating libraries in the larger towns. By this method, pupils after leaving the school are kept in touch with good books; and for the accommodation of all, many of these libraries are kept open during the summer vacation.

In order to compare the growth in this direction, I will quote statistical figures for 1885 and 1901. In 1885, there were but 333 books added to all the libraries in the county, and 3,561 were taken out to be read. In 1901 the new books purchased numbered 4,700, and the number taken out reached 123,388. This was more than one-third of the books drawn from public libraries in the entire State. In Hackensack alone, the Superintendent raised \$314.75 and placed 824 books in the class rooms of the second, third, fourth and fifth grades in each of the four schools, and increased the number taken out in two years from 1,887 to 15,850. The quality of the books has kept pace with the quantity.

Supt. Terhune was among the first educators in the country to appreciate the educational value of stereographs. Not only are sets of stereographs kept continually on the table in his office, as already stated, but they are in many of the schools as well, and it is his purpose to have them in every school in the county, for he has found that they stimulate study by infusing life into an otherwise dead subject, and incite the students to do considerable reading for themselves. The method of using them is somewhat as follows: At the close of a recitation, the lesson for the next day is outlined, and a few stereographs illustrating the same having been selected, they are placed upon the teacher's desk, together with a list of references to books to which the student might have access, bearing on what is seen in the

stereographs. Then the students are expected to come forward and inspect the stereoscopic photographs, and this inspection forms the basis of the preparation for the next day's lesson. This procedure has revolutionized the spirit and work of the class.

Supt. Terhune calls these stereographs "Our Study Windows," since the classes thereby look out upon scenes and objects which are as vividly portrayed as though they were the realities themselves.

In writing of this method of study, he says: "I hail with delight the prospect of introducing such realistic methods for the transmission of knowledge in history and geography, as is presented with the aid of the stereoscope and the stereoscopic photographs. We want them in every grade in the primary and grammar schools, because stereoscopic photographs give life to the words of the text books, and make them real to the child. The sets on Italy, Greece and Egypt can be used in all our high schools. We have only four hundred students in our high schools, while we have four thousand in our primary and grammar grades, and therefore we want sets for the four thousand ten times more than we do for the four hundred. We all know how many pages we have read through inquisitiveness aroused by ordinary illustrations, many of which are only the imagination of some feeble artist. How much more satisfactory to know that we can rely upon the genuineness of the life-like scenes so vividly portrayed in the best stereographs. They are a stimulus to further research, which is one of the most valuable habits for young students to acquire. I should like to see them placed in every public school in our land. It will be a glad day for the millions of pupils who now attend our common schools, when history and geography and kindred subjects are studied in connection with the stereograph, whose vivifying and inspiring influence will brighten their school days, and impart an added fullness and richness to all subsequent years."

As a testimony of the high esteem in which the work of Superintendent Terhune is held by the most prominent educators of the nation, I quote from a letter written him by the Hon. Irwin Shepard, Secretary of the National Educational Association: "I wish to congratulate you on the excellent showing you have made, especially in the growth and efficiency of your library work. Rural schools under such organization and management may be made the best schools in the world"



EXTRAORDINARY RESULTS FROM STEREOSCOPIC PHOTOGRAPHS.

ALBERT E. OSBORNE.

THE purpose of the writer of the following pages is to call attention, first of all, to the essential respects in which a stereoscopic photograph differs from all other photographs or pictures. The prime quality that puts the stereograph in a class by itself is its *depth* or perspective. All other pictures *suggest* depth, but the stereograph has the far and near of the real landscape. The marble pillar looks round and solid, "the branches of the trees," as Dr. Oliver Wendell Holmes says, "run out at us as if they would scratch our eyes out." Moreover, this individual characteristic is a necessary requirement to the end that it may be possible for the stereoscopic picture to appear *life-size*, a remarkable effect that will be explained below. Again, the stereoscopic representation differs from all others in the conditions under which we look at it. By the peculiar construction of the stereoscope, the observer is shut away entirely from this country, from the room in which he is sitting.

The *second* object of this paper is to consider some of the distinctive results to be gained by the use of stereoscopic photographs, particularly, to point out the most remarkable fact that, as a result of the special nature of the stereograph and the special conditions under which it is seen, it is possible for the observer to obtain the same mental experiences that he would have if he were looking at the scene itself. Certainly the real end sought by a traveller to a distant country is his mental experiences, his states of consciousness there; all he brings home with him, of course, are the results of these mental experiences; he does not bring home St. Peter's, the Tiber, or the Alps; and the mental experiences given by the stereograph are of precisely the same kind or quality as those received by the "man on the spot." The testimony given below by the man who visited Venice after looking at stereographs of certain parts of that city throws interesting light on this point.

But to get these experiences a person must look at the stereoscopic scene with attention and with the same knowledge of it that the traveller has in visiting the actual place. So the *third* and final object of this article will be to discuss the helps required for the proper use of stereographs. Under this head we shall describe a new system of maps which enables the person to understand exactly what part of the earth he is seeing in the stereoscope, and what his surroundings must be; we shall describe, further, the nature of the information to be given in connection with the stereograph, and lastly the means necessary to induce the proper states of mind.

THE DISTINCTIVE NATURE OF STEREOGRAPHS.

Coming back to the characteristics of stereographs that make them individual, all people with normal eyes who have looked at properly made stereoscopic photographs through a good stereoscope, must have noticed a striking sense of *depth* in them. The objects represented appear to "stand out" as "solid objects." It is true that any picture in which light and shade are properly managed has more or less of the effect or *appearance* of solidity; but in the stereoscope, there is added an entirely different kind of perspective which gives, to our eyes, *actual* depth, *actual* solidity, *actual* space.

This difference between the appearance of objects in the stereoscope, and in all other pictures, corresponds to the difference between one-eye and two-eye vision. The ordinary photograph is taken by a camera with a single lens opening, and consequently shows us objects exactly as we should see the same objects with one eye closed. The two pictures that make up a stereograph, on the other hand, are made by a camera with two lenses, set as far apart as our two eyes, and thus we get in the stereoscope the effect of seeing objects with both eyes open.

The way in which vision with two eyes differs from vision with one eye is thus stated by Dr. Oliver Wendell Holmes: "We see something with the second eye that we do not see with the first, in other words, the two eyes see different pictures of the same thing, for the obvious reason that they look from points two or three inches apart. By means of these two different views of an object, the mind, as it were, *feels round it* and gets an idea of its solidity. We clasp an object with our eyes as with our arms, or with our hands, or with our thumb and finger, and then we know it to be something more than a surface. Though, as we have seen, the two eyes look on two different pictures, we perceive but one picture. The two have run together and become blended in a third, which shows us everything we see in each. But, in order that they should run together, both the eyes and the brain must be in a normal state. Push one eye a little inward with the forefinger, and the image is doubled, or at least confused. Only certain parts of the two retinæ work harmoniously together, and you have disturbed their natural relations. Again, take two or three glasses more than temperance permits, and you see double; the eyes are right enough, probably, but the brain is in trouble, and does not report their telegraphic messages correctly. These exceptions illustrate the every-day truth that, when we are in right

condition, our two eyes see two somewhat different pictures, which our perception combines to form one picture, representing objects in all their dimensions, and not merely as surfaces."

Passing on to the possibility of utilizing this principle of two-eye vision in making photographs, he says:

"Now, if we can get two artificial pictures of any given object, one as we should see it with the right eye, the other as we should see it with the left eye, and then, looking at the right picture, and that only with the right eye, and at the left picture, and that only with the left eye, contrive some way of making these pictures run together, as we have seen our two views of natural objects do, we shall get the sense of solidity that natural objects give us."

How can we attain these two ends? As we have suggested, we obtain the two pictures of any given object or place by means of a camera having two lenses, set between two and three inches apart, the normal distance between our eyes. Thus it is that we get the two photographs seen on the stereoscopic card. Many have supposed that these two photographs were exact duplicates of each other, but since they are taken from different standpoints (nearly three inches apart), it is obvious that they must differ. By a careful comparison of the two parts of any particular stereograph in which some object in the foreground is outlined against some object in the background, we can partially discover the differences corresponding to the differences between the observations of the two eyes, one seeing a little farther around on the right side of things, the other seeing farther around their left side.

We can obtain the required double pictures then. But the pictures are two and we need to run them together so that we may see them as one, as in natural vision. "How shall we make one picture out of two, the corresponding parts of which are separated by a distance of two or three inches?" We are enabled to do this by looking through the two prisms in the stereoscope. These two pieces of glass, thick at one edge and thin at the other, and with their thin edges turned toward each other, have the power when we look through them of throwing the two pictures inward, so that we can run them together into one representation, in which we get once more the effect of all three dimensions in space—height, width, thickness or *depth*.

Speaking of this resulting effect, Dr. Holmes says: "The first effect of looking at a good photograph through the stereoscope is a surprise such as no painting ever produced. The mind feels its way into the very depth of the picture. The scraggy branches of a tree in the foreground run out at us as if they would scratch our eyes out. The elbow of a figure stands forth so as to make us almost uncomfortable." It must be evident to anyone that in the

stereoscope we do not look merely upon the flat surface of a photograph, but we see every object back of the photographic card as actually as we see everything back of a window pane. Though the space thus placed before us in the stereoscope is not a space in the sense that we can stretch our hand out in it, still it is an actual space for the mind through our eyes.

Furthermore, the stereograph becomes not only an actual space to the eyes in the stereoscope, but when the focal length of the camera, the distance from the lenses to the plate, and the focal length of the stereoscope, the distance from the lenses to the stereograph, correspond, the stereograph may be seen as a *life-size* space, a *life-size* representation, the object or landscape being shown in natural size and at natural distance. That is, the two small, flat, photographic prints, nearly three by three inches in size, about six inches from the eyes, can serve as two windows *through* which we look and *beyond* which we see the representation of the object or place standing out as large as the original object or place would appear to the eyes of one looking from the place where the camera stood.

The possibility under such conditions of getting from a small image near us, the impression of a large object or scene in the distance, is made clear by a little thinking. Suppose a man stands thirty feet from the camera when the photographer makes the exposure. The man will appear on the photograph as only a tiny image. But when we look out through the lenses of the stereoscope, this small image only a few inches from us delivers the same message to our eyes as would the full-size man thirty feet away. The simple experiment of seeing how a small piece of paper held six inches from our eye will completely hide a man thirty feet from us, demonstrates this perfectly. The same piece of paper would hide an immense building farther away. It is in accordance with this fact that when we look through the lenses of the stereoscope we are enabled practically to look also through the stereograph as if it were a transparent screen or window, and see the real objects, full size again, as far distant from us as they were from the camera when the stereograph was taken.

There are those to whom it appears at first that they see only *miniature* spaces in the stereoscope. It is true that not all the conditions of actual vision are so fulfilled in the stereoscope as to make it necessary for a person to see things in their natural proportions; nevertheless, it is found that enough of these conditions are fulfilled to make it entirely possible for anyone to acquire rapidly the power of such interpretation. In fact, this miniature effect to some people is due mainly to their constant remembrance of the small card a few inches from their eyes. They modify what they might see by what they think they ought to see.

If such people will take note of the fact that none of the objects seen in the stereoscope are located on the surface of the photographic prints so close to their eyes, but that they see every object back of these prints as actually as if they were looking through transparent screens or windows, then they soon get impressions of objects or places in the stereoscope as large as they would if looking at the original object or place through windows of the same size and at the same distance from their eyes. "We must grasp and hold fast to this fact as to the size of these representations when seen in the stereoscope and as a necessary help to this, their location entirely separate from and back of the stereoscopic card, if we are to be in a position to begin to judge of their usefulness." So much for the remarkable nature of a stereoscopic representation and the way in which it differs from all other representations.

With regard to the special conditions under which we look at the stereoscopic scene, a word only is required; that is, that we look with our eyes shut in by the hood of the stereoscope, so that all our immediate physical surroundings are shut away from us.

EXTRAORDINARY RESULTS TO BE GAINED FROM THE USE OF STEREOSCOPIC PHOTOGRAPHS.

We come now to the consideration of the practical significance of these differences between stereoscopic and all other illustrations. We pass over the obvious advantages of the more accurate visual impressions of things gained in the stereoscope and come at once to the fact, that, because of the special nature of stereoscopic photographs and the peculiar conditions under which we look at them, it is possible for people to get an essentially and fundamentally different experience from them than can be obtained from any other illustrations. Dr. Hervey, ex-president of the Teachers' College, New York, in writing of some stereographs of Palestine, put the matter as follows: "When one looks at an ordinary picture of Palestine with the naked eye, one feels himself to be still in America, or wherever he may be at the time. Through the stereoscope, with the outer world shut off by the hood, one feels himself to be looking right at the scene itself."

The full meaning and the great importance of the fact alluded to in this statement is not easily realized. In trying to bring out its significance more specifically, we shall begin by saying that with the proper attention and the proper helps, maps, etc., a person can obtain in the stereoscope a definite sense or experience of geographical location in that part of the earth he sees represented before him. The general impression has been that there is no possible way by which a person can get an experience of location in a distant country except by going there in body. It is now being found that it is possible to obtain a definite ex-

perience of location geographically in a definite place, in a distant part of the earth, while sitting at home in connection with a stereoscopic photograph of that place.

To guard against misunderstanding, let us state at this point what is not affirmed. It is not affirmed that the traveller's experiences of movement can be obtained in connection with the stereoscope. But who would not consider it a great privilege to stand in fifty definite places in Rome, for instance, and look with a definite field of vision? The claim is that genuine experiences of this character, with certain limitations to be spoken of later, can be obtained in the stereoscope. It is to be recognized also that all the individual differences between people would hold in one case as in the other. One person gains more than another from an actual visit to a place, and of course one person will gain more than another from the stereographs of the place.

Before anyone says that it is impossible to get even such experiences in the stereoscope as we have alluded to, let us consider an important and relevant fact about our nature, the fact that our sense of location is determined in nearly all cases not from what we hear or feel, but from what we *see*. When we look at ordinary photographs in our hands or on the wall, or when we look at paintings in a gallery, we always see the book or frame or part of the room about us, as well as the pictured scene, and consequently we continue to have a distinct sense of our location in the place where the picture is. In using the stereoscope, however, the hood about our eyes shuts our room away from us, shuts out the America or England that may be about us, and shuts us in with the hill or city or the people standing out beyond the stereoscopic card. If now, we know *by the use of maps* exactly where on the earth's surface this hill or city or group of people is located, then, it is in accordance with the law of our nature that we may have a distinct sense or experience of our location there. Other conditions are that we shall look intently, and look with clear thought, not only of the location of what we see before us, but also of what we know (from the study of the maps) must be on our left or right or behind us.

The best evidence, and indeed a sufficient proof, that we do get such an experience when we look at stereoscopic photographs properly, is the fact that, ever afterwards, we find ourselves going back in memory over mountains and seas to the place in the distant country where the real place is located, rather than to the room in America or England where we saw the stereoscopic scene. We find that our memory acts in a decidedly different way when we recall our experiences in connection with other pictures, which not only lack actual depth for the eyes, but which we have looked upon while our immediate surroundings were not

shut out. Here is an illustration. In the Metropolitan Museum of Art in New York there is a beautiful painting of a place in Holland. It is a haying scene, and the field, with its mounds of hay, stretches away to the distant hill with a fine effect of space and reality. I have lingered before this scene many times until it stands out with great vividness in my memory. I think I know about where the real place is located in Holland. Nevertheless, whenever I think of this scene my memory goes back directly and definitely, not to Holland, but to the Metropolitan Museum of Art in New York, and afterwards, if at all, to Holland. Though it might have *seemed* sometimes that I became entirely oblivious to my immediate surroundings, while gazing at the splendid picture, and that I was in the very presence of the real scene in Holland, still the record my memory has of my experience, shows that I really did have a definite sense of location in New York all the while. This we see is in decided contrast to what I found to be the behavior of my memory in regard to my experiences when I have looked at scenes in the stereoscope intelligently. The place where I was while looking at the stereoscopic scene is entirely or almost entirely ignored. My thought goes back directly and unerringly to the distant part of the earth where the actual scene is located. This is the best of proof as to what was the state of my consciousness at the time.

Now, whenever we do get this sense of location in a certain place, Rome, for instance, in the stereoscope, it means that we have gained not merely the same visual impressions in all essential respects of certain places in Rome that we should get if we were there in body, but also part of the very same feelings we should experience there. It means that we are pervaded with entirely different emotions—that we are in a state of emotion appropriate to a place in Rome and its surroundings, rather than the state of emotion that would result from being in our every-day home surroundings before a picture of Rome. The only difference in the feelings experienced in the presence of Rome itself and in the presence of Rome as shown in the stereoscope is a difference in quantity or intensity, not a difference in kind. So this sense or experience of geographical location means a definite state of a person's consciousness, a soul state, which has all the three aspects of intellect, feeling and desire, that make up the traveller's state of consciousness on the spot. We have room for only a word about the vital importance of thus getting the emotions that a place can inspire. Says Professor Ladd: "The emotions furnish the springs of action for man in his rational activities." "Out of the heart," not out of the intellect, "are the issues of life." We must ever remember, then, with Professor Sully, that "the objects of the external world only acquire value for us in so far as they touch our feelings."

It is evident, of course, as we have said above, that we cannot get in the stereoscope the traveller's experiences of movement; we are limited to such experiences as the traveller might get while standing in certain places with definite fields of vision. Neither do we get color. Other limitations we shall have to consider in connection with the stereoscope are that the experience of location in the place represented will be limited in duration, often lasting with some people only a few seconds at a time, and further, as mentioned above, there will be a difference in the quantity or intensity, but not a difference in the kind of feelings. It is found, however, that none of these limitations affect the reality or genuineness of one's experiences in connection with the stereoscope.

But probably some one is insisting now that "after all these cannot be the *genuine results*, the *genuine experiences of travel*, these cannot be *real experiences* of being in certain places in Italy, which people get in the stereoscope, because it is not the real Italy they are looking at."

At first thought such a statement is absolutely conclusive and final. The absence of the real Italy in the stereoscope would seem to make anything but a make-believe experience of being in Italy impossible. But let us wait a moment. What is the end sought in going as a traveller to Italy? What would be the results to us of such a trip? As travellers, we would not go to possess ourselves of the buildings or lands of Italy. We certainly would not attempt to bring the material fields and cities back with us. Such an idea would never enter our minds. Our purpose in making that long and arduous journey would be to gain certain *experiences of being in Italy*. What we would bring back with us would not be the *material Italy*, but the effect of these experiences in our lives and the power to go back to them in memory.

Now if the end sought in taking such a trip is not Italy, the material land, but experiences of being in the land, let us be sure to understand what we mean by our *experiences of being in the land*, in distinction from the land itself. To develop this more clearly let us think of a traveller standing in Rome near the Arch of Titus, looking out over the Roman Forum. As he stands there, with the ancient Forum stretching away before him, he is concerned with two kinds of realities, each essentially different from the other. First, he is concerned with the material soil and broken marble, realities of the physical world; second, he is concerned with the realities of his inner mental states—his *states of consciousness*, the state of his soul, his thoughts, emotions, desires. The realities of the physical world have weight and material substance, the realities of his inner mental states are without weight and material substance. Yet it cannot be emphasized too strongly that these states of consciousness are actual realities, though so

different from the realities of stone and dirt, that while the broken column is a reality, the thought and emotion it stirs in a man are realities also. On the one hand we have the *facts* of the physical world, and on the other the *facts* of conscious soul states or experiences, the facts of conscious life.

Thus we are able to see clearly that all the pleasure and profit for this traveller is found not in the extent of the material ruins of Italy, but in the extent of the states of his consciousness, which are called into existence by these material ruins of Italy. No matter how many physical objects there may be in the Forum, no matter how many thoughts and emotions they are capable of stirring in the human soul, nevertheless, a certain traveller gets as a result of *his* presence there only so much as *he* becomes aware of, only so much as comes to have existence in his own consciousness. The Forum is the same in its physical makeup, whoever goes to see it, or whether anybody goes to see it, but the states of consciousness, that different people experience in connection with it, or that a certain person experiences at different times, will vary greatly according as such people notice more or are capable, because of greater knowledge or experience, of thinking and feeling more.

We see then that when we speak of a man's experiences in a place, we do not mean at all the objective place, made up of material things, the realities of the physical world, but we do mean specifically the man's subjective states, the realities of his soul life, which are called into existence by the place. There are two kinds of realities involved, the former serving as a cause, the latter being the effect, the physical reality serves simply as a means to produce a certain state of consciousness, the mental reality, the end sought.

Now we can return to the stereoscope and understand how it is that proving one of these realities is absent does not necessarily prove that the other is. The two are not identical. To prove that there is no real Italy before one in the stereoscope does not prove there is no real soul states within him, no genuine experiences of being in Italy. That would be going on the assumption that nothing but the material Italy can induce such states of consciousness. That is illogical and has been disproved by experience. Men are finding that these marvelous representations are capable, when used with the proper helps, of prompting a genuine experience of being in the place represented. Unquestionably, we can, with the help of maps, obtain in the stereoscope a clear, definite consciousness of location in the place there shown. It necessarily follows that we must then be pervaded with a state of emotion appropriate to the place, differing in quantity, but not in kind, from that felt

by the traveller. We do "feel," as Dr. Hervey says, "that we are looking right at the place itself."

But it is important for us to know that generally people who have passed through such an experience in the stereoscope do not recognize it. Here is a case that exactly illustrates what I mean. I was talking with a man who had just returned from Venice. Before going he had prepared himself very carefully, he said, for his visit. Among other things, he made a study of some stereoscopic photographs of Venice. By the help of maps, he had found the points from which he was looking in the several stereographs and the location of those parts of Venice which were represented before him, and then he gave himself to a thoughtful and sympathetic contemplation of what he saw. Finally, he reached Venice. He left the train eagerly and expectantly. But, as he told me, he was soon surprised and disappointed in that he seemed to have no new experience, no new taste of feeling. It seemed as though he was returning to places he had visited before. As he thought it over, his mind went back to the time when he saw the stereographs. He recognized that he had gained from them not only wonderfully accurate ideas of the appearance of many places in Venice, but distinct experiences of location in Venice, experiences which had brought with them part of the very same feelings that came to him on the ground in Venice. He experienced more emotion when in the place itself, but he recognized it was more of the same kind that had come to him while shut in with the stereographs at home.

Thousands have made this same mistake. Though they have gained from stereographs the genuine experience of the traveller, still they have gone on longing for an actual visit with the idea that it would mean something entirely different from anything they had yet known. It is only natural, though, for us to make such mistakes about our inner experiences. Says one psychologist: "Facts of consciousness may be just now *observed*, though they have been *experienced* millions of times." At first thought, many would be inclined to say that they know what had been their experiences while using the stereoscope, but only the most careful thinking could make them really sure after all.

So we cannot say too strongly, we cannot see too clearly, that in the stereoscope *we are dealing with realities*, but they are the realities of soul states, not the realities of outward physical things. The object or place represented does not actually exist in space before the person, but the person's state of consciousness, made up of thoughts, emotions, desires, does exist in reality and will ever have its influence as such in his mental, moral, soul life.

The more we consider stereographs, therefore, the

more clear it becomes that their main purpose is not simply to communicate information as to the appearance of places, but to do this in such manner that the information or visual impressions conveyed may be the means or occasion of a vigorous and varied exertion of the faculties of the person looking, of inciting in him certain states of mind with relation to the place itself, rather than the picture. Evidently, if this sort of experience can be obtained from stereographs, we should be satisfied with nothing less.

HOW TO USE STEREOSCOPIC PHOTOGRAPHS, HELPS
NEEDED, MAPS, BOOKS, ETC.

But this means entirely different methods of using stereographs. For as soon as we take up the stereograph with the idea of gaining an experience of location in the place represented, we find, unless we have already visited the place, we need much in addition to the stereograph itself. Accordingly careful attention is being given to the question of what is required to enable people to gain the fullest, richest experiences from stereographs, experiences nearest to those of the traveller. Primarily, it is found that we must treat the stereograph as we treat the place. This means, first, exact knowledge of where on the earth's surface the place which we see in the stereoscope is located, and of our relation to this place with regard to the points of the compass. To give people this knowledge in connection with stereographs, a new patent map system has been devised. (See page 176). On these maps we find indicated the point from which each scene is photographed, and by two red lines which diverge from each point, the territory included in each particular stereograph is shown. Thus a person looking at a scene in the stereoscope is enabled to know precisely where on the earth's surface he is standing, over precisely what part of the earth he is looking, and hence he can know also from the maps what his surroundings must be. This knowledge is of absolutely first importance if we wish to gain the experiences in the stereoscope we have been talking about. We certainly could not expect to gain a definite sense or consciousness of location in any place, and of our surroundings there, unless we know where that place is. It is easily seen that without such maps all series of photographs or illustrations that have been or can be published must show a country or city to our minds in disconnected, unrelated fragments. It is utterly impossible for a person, not already familiar with the ground by an actual visit, to get from such unrelated sections an experience in any part of a country such as the traveller gets. The mind cannot place such disconnected sections in their proper relation to each other or the world. Such a map system as the above is, then, absolutely necessary if we are to treat stereoscopic photographs as we treat the place itself.

Again, if we are to obtain an experience from the stereograph as from the place, we must obtain the same knowledge of the different buildings and objects shown in the stereograph, of what they stand for, their history, etc., that we would get on the ground.

Accordingly, books are being issued in connection with the stereographs of a city or country. In these books the author or guide takes up the stereoscopic scenes in order and calls attention to the objects of interest in each one, and gives some of the history connected with it. Of course, it is as impossible to give all the history associated with these places as it would be for the traveller to go over it all on his visit. Ten thousand books could not exhaust the past in a place like Rome. But the plan is to call attention to all that is especially important in each scene and give something of its past, as would be done if talking to a party of tourists on the spot. After such familiar acquaintances with these historic sites and buildings, it will require a lifetime to follow up all the lines of interest that are started within us.

Work along this line should be recognized as work on what is practically a new problem. Many books have been written to aid the tourist in his walks in the actual Rome. Probably the question of how to get the most out of an actual visit to Rome is pretty well solved. But the question of how to get the most out of Rome as it can be seen through the stereoscope has never been solved. In fact, in the past, because of the fragmentary and unrelated character of photographs, it has been impossible to make them the foundation of any systematic and intelligent study of a city or country. With the invention of this new map system it has been made possible for the first time to gain information of distant places in as intelligent and systematic a way as by actual travel. The opportunities now opened up in this field are hardly dreamed of as yet.

But there are definite limitations which make it wise to follow a different course in studying a place through the stereoscope than the tourist would on his actual visit. For instance, a guide book for a tourist is written on the assumption that he will move from one object to another as he views them. The series of stereographs upon a certain city like Rome, however, must be limited. A person is able to stand, say, in forty-six definite places in Rome, no more, no less. Obviously, under these conditions, it is wise to remain for a much longer time than the tourist would in each one of these definite positions, in order that we may take note of as many objects of interest as possible from a single standpoint.

The whole aim of these maps and books, then, is to make an intelligent "visit" to distant places through the stereoscope possible, to gather and furnish information for use right in connection with the object in the stereoscope, just as

information has heretofore been gathered and furnished for the use of the tourist in connection with the thing itself.

We should recognize further that, in providing maps which give us exact knowledge of the location of the places we see in the stereoscope and in furnishing historical and other information, it is evident we are doing for these representations no more than we should have to do for the places themselves when travelling. But since these stereographs are not the places, but only representations of them, and since our object is to forget that they are representations, and to have prompted within us while we look at them the consciousness of the real place and its surroundings, we find we are helped in obtaining this result if we do some things in connection with the representations that we would not do in connection with the place. Generally, it can be said that we shall need to make some effort on our own part at first to get into the proper state of mind. The reason for this can be easily shown. Not a little of the benefit of actual travel is due to the stimulus that comes from being among new and strange scenes. We can't help but be all alive. We take the trouble to go here and there, to get our bearings with relation to our surroundings, to read historical notes and sketches, to think back into the past. But we come to a picture immediately from our home surroundings and home atmosphere. Sitting in our chair and holding a stereoscope are indeed commonplace, every-day activities, as far as our bodies are concerned. And so, though the representation of Rome does stretch away in infinite perfection before our eyes, we look at it languidly. Coming in an instant from our every-day life, and without the excitements of actual travel, it is impossible for the representation of itself at once to chain our careless and indifferent attention and force upon us the proper states of consciousness. In coming to a stereoscopic scene in this way, it should be expected that at first we would not be drawn with the same intense interest. We must recognize, if we are to have anything like the experiences that it is possible for us to have in connection with stereoscopic photographs, and for that matter in connection with any picture, that generally we must give our minds an initial "push" from within. If we do understand what the trouble is when interest lags at first, and go ahead treating the representation as we would the place, getting our location from the maps, and information about objects before us, then we find that the attitude of mind which we assumed in the beginning by sheer will power, continues of itself.

It is to give aid at this point that the author of a book to accompany stereographs assumes the role of a personal guide. According to this plan, he assumes in the case of each stereograph that he is standing with his fellow-

travellers, in the presence of the actual scene, and calls attention to the points of interest in these famous places in the first person, as he would in conversation. By this fresh and vivid way of putting things he can constantly suggest the desired state of mind.

Noticing small details is another important means of securing the proper state of mind. Nothing is more effective in fixing a person's attention, of making him entirely oblivious to his bodily surroundings, and giving him a vivid sense or consciousness of being in the very presence of the place itself. Often, therefore, it is wise to turn aside to notice spears of grass, grain in a stone, tiles, chimneys, a ragged coat or hat, not because of the particular importance these details might have in themselves, but for their effect in directing attention and calling out the proper states of consciousness. So it can be said that the endeavor should be to put what is written in the form of such "exercises" as would, if followed in the proper spirit, according to directions, induce the most definite states of consciousness, genuine experiences of location in those parts of the earth represented in the stereoscope.

Finally, if it is possible for human beings to get in connection with representations of places the genuine experience (differing in the quantity, but not in the kind of feeling), that a person would get in the presence of the place itself, what a far-reaching significance this fact has. What a liberation of our real thinking and feeling selves from the conditions imposed on our material bodies! How many people are chained down to one spot of earth by the hard necessities of their lives! How many people look out to the material hills which bound their horizon and long for the experience of standing in the great places of the world of which they have heard. But to hundreds and thousands it has always seemed that such longings could never be satisfied, such dreams never fulfilled, because there was no way of knowing these experiences excepting at the great expense of actual travel in body. But this is not necessary. Such people may know for themselves the experience of standing in those places. No matter if their bodies do remain in the old accustomed scenes, their states of soul may be in accordance with, their states of consciousness may be dominated by, what is far beyond their narrow horizon. They may learn not only absolutely final facts as to the way a distant place looks, but they may experience part, at least, of the very same emotions the place can stir. They may receive into their souls the peculiar messages which a certain place in Italy, or Greece, or Switzerland, can give. They may have the inner experience of location here and there all around the earth's surface.

THE INTERNATIONAL TRAVELLERS' CLUB.

THE purpose of the International Travellers' Club, as stated in the last issue, is the furtherance of pleasurable and profitable book and stereograph study bearing upon certain itineraries to be published as part of the Club program.

The itineraries, we said, are planned with a view to meeting the needs and wishes of both the stay-at-home traveller ("whose mind travels while his body is forced to stay at home") and the world rovers, who thus take a delightfully retrospective trip, hardly less enjoyable than the first journey. And for those who are planning their initial trip, or their second, or maybe their fifth, the program of the Club will be hardly less suggestive and valuable.

ADVANTAGE OF MEMBERSHIP.

It is thought that membership in the club will bring together in aim, study and actual results, those of similar itinerant tastes, with the possible end that parties may be formed to reap from actual travel the benefits and delights, the wonder and glory, for which the club reading, and stereograph-looking has prepared them.

1—The benefits from systematized and pleasurable study.

2—The interchange of ideas, reports of experiences, itineraries, etc.

3—The sharing of these by publicity under experienced editorship in the official organ of the Club.

4—By the selection of practical, economical, comfortable and interesting itineraries.

5—By the listing of books, legends, etc., directly bearing upon the itineraries.

6—By assistance in organizing local Chapters.

7—By the organization of small travelling parties, prepared through club membership, to thoroughly appreciate and enjoy the actual travel.

8—By the use of stereoscopes and stereographs illustrating itineraries which will be sent for two weeks, express paid, to any circle of the Club, upon a deposit of \$5.00, and the payment of \$1.00. The five dollars will be refunded upon return of the stereographs in good condition. The one dollar pays packing and expressage and incidental wear and tear.

The deposit amount (\$5.00) represents the actual value of the stereoscope and stereographs, and the same may be retained at that figure if desired, and we suggest that the dues of the Club would easily pay for these necessary and delightful study helps.

CONDITIONS OF MEMBERSHIP.

1—Application must be indorsed by two property holders, residents of the same city as applicant.

2—A fee of \$1.00 must accompany application. This entitles a member to all privileges of the club, including a year's subscription to THE STEREOSCOPIC PHOTOGRAPH, official organ of the club. Cards of membership may be obtained from the New York and London offices of the Club.

APPLICATION BLANKS.

Applications of local circles or of individuals for membership in the International Travellers' Club must be made on the blanks furnished for that purpose by the International Travellers' Club.

MEMBERSHIP CARDS.

Membership cards are duly inscribed with the Club motto, "The travelled mind is the catholic mind, educated from exclusiveness and egotism," with the name of the holder and the number of the card as recorded in the record book of the club. The reverse side is printed in six languages, thus making it a very real help to travellers. A Membership Card must be held by at least one member of the Chapter and by as many more as the Chapter may deem advisable. Membership Cards will be recognized by United States Consuls and Tourists' Clubs in all countries as an introduction entitling the holder to fraternal courtesies. THESE CARDS ARE NOT TRANSFERABLE.

Application Blanks and Membership Cards may be ordered from the New York, London, Toronto, and Ottawa (Kan.) offices of the International Travellers' Club.

THE STEREOGRAPH COURSE.

The stereograph course will substitute for the imaginary or half-remembered objects (conjured up by the reading of certain selected books) the real pictures, the paintings, the sculptures, the men and women as they are—to all intents and purposes the very city itself; not as in the thought of the writer, or of the reader, or of the listener, but in the very truth of existence.

It can hardly be said which is the more important—the books or the stereograph—so dependent is one upon the other for delightfully satisfactory results. It can be said, however, that all that careful editorship can do toward the selection (from a constantly widening choice) of just the books and stereographs needed to stimulate (we had almost said *exhilarate*) and sustain an interest in the peoples, industries and arts of our own country, and in foreign countries, has been done.

Duplicate stereographs and stereoscopes can be had at a discount. Itineraries and accompanying book-lists and stereographs will be made up to order for a Chapter of the International Travellers' Club.

THE MAGAZINE.

THE STEREOSCOPIC PHOTOGRAPH is the official organ of the Club and will contain helpful suggestions on required readings, and picture-looking as well as itinerary outlines, club correspondence and other relative matter.

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It is recommended that persons interested will endeavor to form local Chapters. Correspondence is solicited from those who will co-operate in forming local Chapters and help will be given. Chapters should be conducted after strict business methods, and for this purpose model constitutions have been prepared, which can be changed or amended to suit the needs of various Chapters.

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THE EVOLUTION OF TRAVEL.

H. H. POWERS, Ph. D., President Bureau of University Travel.

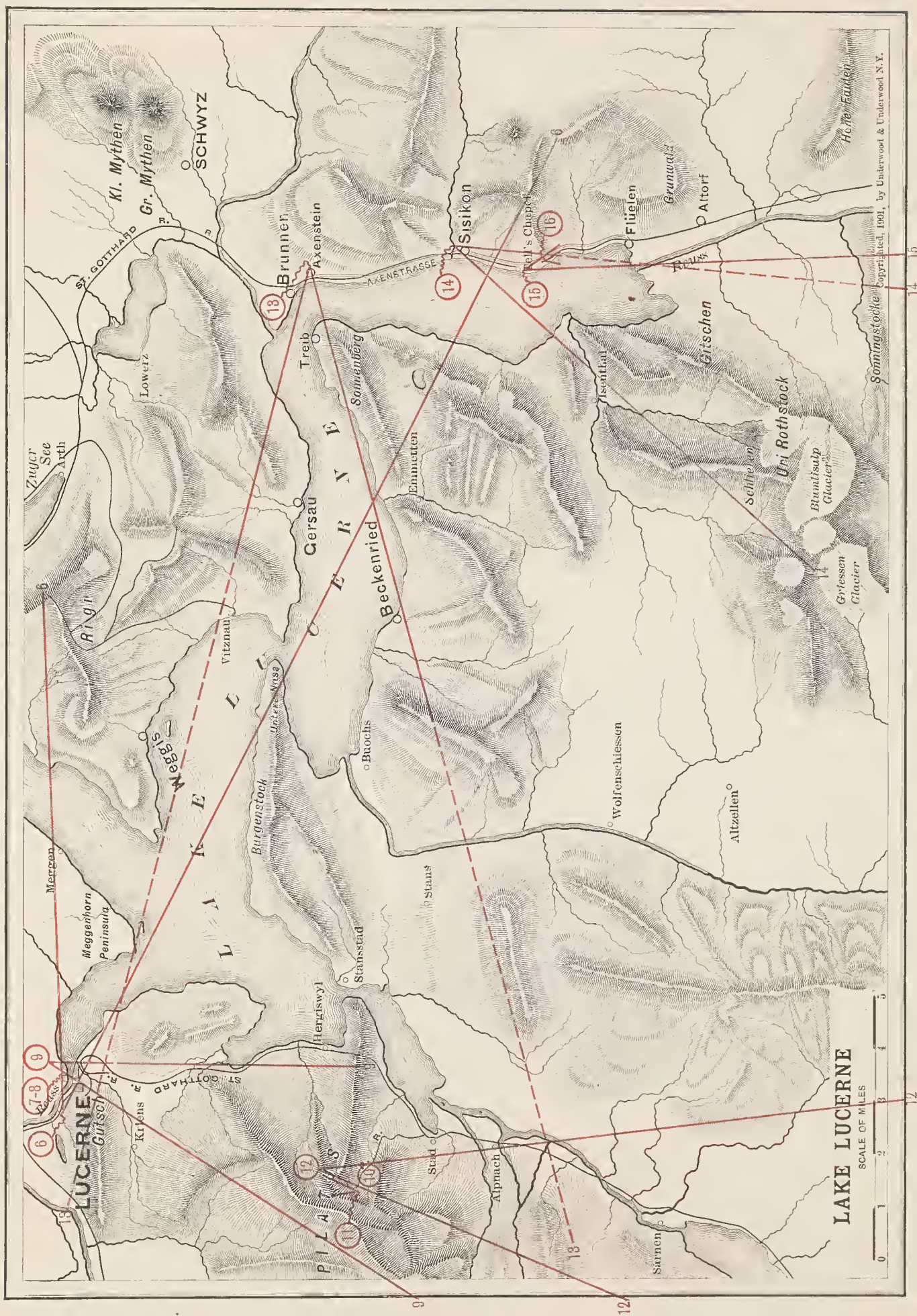
TRAVEL was once beset with difficulties and dangers which required in the traveller something of the intrepidity and spirit of adventure that characterizes the explorer. This condition of things has slowly changed with the development of facilities for transportation. Railroad travel has become so automatic and facile that it has removed the mechanical difficulties of travel almost everywhere. Travel has responded to the new opportunity and has developed to an amazing extent.

One result of these improved facilities for travel has been organization of parties, which, beginning about the middle of the last century, has assumed enormous proportions. These parties have offered the great inducement of perfect security and freedom from embarrassment to those who still thought of travel as risky and difficult, while at the same time the opportunities for economy through organization realized large profits for the organizer. The timidity of the average traveller, hitherto a deterrent to foreign travel, has disappeared, and Europe has been thronged with eager tourists of a type unknown before. New railroads and hotels have been built, new languages learned and a multitude of conveniences developed on every hand in preparation for the mighty pilgrimage. Too often, however, these parties have no intellectual purpose. As transportation machines they have seen no equal in the history of the world. The difficulty has been that they were organized solely with reference to mechanical ends, to getting about.

But getting about is not travel. So long as getting about was very difficult, it is no wonder that it should have been in the foreground of attention. Now that it is easy, other difficulties present themselves. The great problems of travel are intellectual, not mechanical. We do not go to Europe just to take the air, but *to see things*. Now Europe, like every country, contains things of all sorts. We can find plenty of things that appeal to the most superficial curiosity, oddities of dress, architecture, speech, etc., dog carts and all manner of queer things; and, for a time, we may get some amusement out of travel, quite unaided by serious faculties. But it is slowly dawning upon us that Europe has certain great specialties which are eminently worth seeing. Europe is the home of the great civilizations that mean most to us. They have left great historic monuments, countless treasures of art and a multitude of tangible reminders of their greatness and power. But when we have gotten to these things we may be as far off as ever. There are many things which we cannot see, properly speaking, except as we understand them. The mere gazer at pictures and temples cannot properly be said to see them because he sees nothing in them. They have as little interest for him as a book in a foreign tongue. The great problem of travel is, therefore, not transportation, no, nor even information, which after a fashion any local guide can give you, but rather *interpretation*. If the old-time helplessness of the traveller has disappeared and he now makes his way to Europe with confidence, a new help-

lessness has taken its place. It used to be an achievement to have visited Europe; it is now often a give-away. A consciousness of the vast intellectual import of Europe is plainly manifesting itself in cultivated circles, and to visit Europe without appreciating that import is derogatory to one's social standing.

We are all proud of the nineteenth century. The careful student of the course of human thought notices certain strong contrasts between this century and that which preceded, particularly in the temper that marks its close. The thought of the eighteenth century was dominated by abstract philosophy with strong reminders of the scholasticism of an earlier date. Hair-splitting acumen was much in evidence. The thought of the nineteenth century was dominated by the study of natural science. Our philosophy, our politics, even our religion are recast in terms of evolution to make them seem natural. It seems as though we could think in no other terms than those that natural science has taught. What is the reason for this change? Simply that natural science has been studied in the laboratory. There is something tremendously real about a study that brings us into actual contact with things. Laboratory study has been the death of scholasticism and has revolutionized human thought. But in all this there has been some loss which the twentieth century must somehow repair. The humanities, as they once were called, have not held their old place in the college curriculum or in the esteem of mankind. Why not? Simply because we have not found a way to study them in the laboratory. The study of history and a multitude of allied subjects is unfortunately still a study of names. Names have not the meaning that things have, seen before our eyes. They are unreal to us, however real may be the things they stand for. Is there no such thing as a laboratory for history, for art and for civilization? All these subjects deal with concrete realities. The trouble is people have dealt with them second hand. Can we not get to the real thing and give these glorious subjects some of the credit which is their due? Only on one condition. When the mountain will not come to Mohammed, Mohammed must go to the mountain. The monuments of civilization, the great works of art and the scenes of man's greatest achievements cannot actually come to us; we can go to them. It is infinite pity that we study art so much in books, that Caesar and Cromwell are nothing but names. They never can be more till we stand where they stood, and through contact with the things that recall their achievements, acquire the sense of reality which we have lacked so long. He who would study art must *see* art, he who would know the world must *see* the world. He who would understand civilization must study it in the laboratory. There is no other way to give to these highest things the reality that lower things have won for us in the century that is past. The nineteenth century has opened the laboratory of civilization and cleared the aisles for our getting about. It remains for the twentieth to direct our interest wisely to the appreciation of its incomparable contents. Every intelligent organization, be it for actual travel or for more vivid appreciation of the actualities of travel, is a contribution to this end.



EXPLANATIONS OF MAP SYSTEM.

- (1) The red lines on this map mark out the territory shown in the respective stereographs.
- (2) The numbers in circles refer to stereographs correspondingly numbered.
- (3) The apex (\wedge), or point from which two lines branch out, indicates the place from which the view was taken, viz., the place from which we look out, in the stereograph, over the territory between the two lines.
- (4) The branching lines (\vee) indicate the limits of the stereographic scene, viz., the limits of our vision on the right and left when looking at the stereograph.
- (5) The stereograph number without a circle is frequently placed at the end of each branching line (example 13 \vee 13), to help locate quickly the space shown in a stereograph.
- (6) Sometimes the encircled number is placed where it can be seen better and a zigzag line runs to the apex to which it refers.
- (7) Where the field of view in the stereographed scene is limited, its location is designated by the number of the stereograph in a circle without the branching line.
- (8) When some object obstructs the vision on the right or left in a stereoscopic scene, the bounding lines on the map are usually continued beyond the obstruction as broken lines.

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Patented U. S. A., August 21, 1900.

Patented France, March 26, 1900. S. G. D. G.

Patents applied for in other countries.

Patented Great Britain, March 22, 1900.

Switzerland, \boxplus Patent Nr. 21,211.

Lucerne
and her
Beautiful
Lake.



No. 6.

ACROSS LUCERNE.

Suggestive notes for the use of two Stereographs in the Swiss tour:—*Lucerne and her Beautiful Lake* (No. 6) and *The Lake of Lucerne from the Axenstein* (No. 13).

CONSULT a general map of Switzerland to refresh your memory of the lake's location.

It is some forty miles south of the German frontier, and about midway between the French and Austrian lines.

Consult the special map of the region immediately around the lake, given on the opposite page, to get a definite idea about "the lay of the land."

The mountains evidently have the right of way and the lake occupies such room as there is left, doubtless making up in depth what the mountain walls refuse in the matter of width. It will evidently be impossible to see any very large portion of the lake from any one view point, it is so cut up by projecting headlands.

Find the standpoint for stereograph No. 6 in the upper left corner of the map, and notice what is told by the (red) guide-lines. The lines extending from the numbered point include between them what you will have within the range of your vision.

The town of Lucerne will be near by. You will see to some distance eastward, beyond the town. At the left, the red line indicates that you will be able to see as far as the Rigi. The red line at the right promises a still more distant view on that side,—a view extending to the mountains away beyond the eastern end of the lake, *i. e.*, (see the scale of the map) some twenty miles away.

Spend plenty of time over No. 6 with the help of your stereoscope. It will repay you. The moment you get the view

through a stereoscope, properly adjusted to suit your eyes, the distances stretch themselves out before you, giving an effect immeasurably more impressive and more accurate than you could get from any ordinary photograph.

When you look at the stereograph, holding it in your hand like a common "picture," it appears as it does in this half-tone reproduction. Those low, dark hills, just beyond the outlet of the lake, seem to lie at the foot of the mountains. But the stereoscope pushes the mountains back where they really belong, a mile or two farther east, at the other side of an intervening arm of the lake. (*See map.*) The low hills are evidently a part of the Meggenhorn.

The Reuss, the outlet of the lake, is flowing towards you, between the old houses and under those bridges. The second bridge—the one with a roof—is a curious structure dating from the Middle Ages. Guide-books and volumes of travel describe the quaint pictures of local history and sacred legends, painted inside its covered walk. (Another covered bridge, similarly equipped with paintings, so that passers-by might profit by their journey, crosses the river a few rods farther down, over your left shoulder. That is the one which figures in Longfellow's *Golden Legend*.)

Consult the map frequently, so as to keep clearly in mind what there is to be seen. We are more likely to see a thing if we know it is there and look for it.

That mountain-ridge just ahead, at the left, is the Rigi, one of the heights most celebrated in all Switzerland,—not so much for its own beauty as because



No. 13. Lake Lucerne from the Axenstein.

of the magnificent view it commands. Travellers spend the night on its summit for the sake of seeing the sunset and sunrise glories over the high Alps, that fill the horizon more than half way around the sky.

To the right, just beyond the town, a wooded point projects into the water. You can see a stretch of the lake beyond, and then a steep dark hill that seems almost to meet a similar slope from the opposite shore. (*See map.*) This is the narrowest part of the lake, where the Nose of the Burgenstock reaches out toward the eastern shore.

It was on the shore of a promontory east of the Burgenstock, near the Sonnenburg (*see map*), that the beginners of the Swiss Confederacy took oath in 1307 to free their home cantons from Austrian rule. If the romantic old story is not fresh in your mind, by all means look it up anew, in some good history or book of travel.

Find the standpoint of stereograph No. 13 at the eastern side of the map, where the lake shore turns a right angle. Study the guide-lines.

You are evidently to look back *westward*, your range of view this time setting too far south to take in the town of Lucerne, but extending to a mountain (Pilatus) that stands southwest of Lucerne. Several projecting headlands must evidently cut into your westward view across the lake. The Nose of the Burgenstock, and a part of the shore opposite the Nose, must also come into your view.

That part of Switzerland seen in stereograph 13 is worth long study, both for the bold beauty of the mountain masses and for the sake of the stories and legends that grow so thickly all along the lake shore. Look once more at the map and see what a number of famous places are near the standpoint of No. 13.

Away down beyond the southernmost reach of the lake you see Altdorf. That is the village where, according to the old story, Tell shot the apple from his son's head. When Gesler was carrying Tell away, a prisoner in the boat, the hero jumped ashore at the spot where "Tell's Chapel" now stands, and the storm-tossed boat drifted along-shore, by the point marked 13, making a landing at Brunnen, just above.

The place where the confederates took their momentous oath, a few months later, is on the western shore below the Sonnenburg, just a bit too far south to come into your range of view from No. 13.

Be sure to study this stereograph through the stereoscope. Do not fancy you know it when you have only examined twin photographs pasted on a card! The stereoscopic lenses bring out each successive mass of land in truly marvelous perspective. Notice the atmospheric effect of the increasing distances in softening the outlines and subduing the colors of the mountain slopes.

The slope of the Sonnenburg is sombre with thick trees. The rocky promontory at the right, a bit farther away, is appreciably paler and softer. Zig-zagging back toward the

left, the mountains beyond the Sonnenburg wear a thin veil of haze. So does the Burgenstock. And Pilatus, towering up there in the west, has his huge bulk softened into delicate mistiness.

Beginning with the nearest things and letting the eye run farther and farther into the distance, all the colors grow successively lighter and lighter, just as musical notes run up a scale. It is easy to understand why people who have eyes to see adore Switzerland.

As for stories, you will find no end of quaint legends about Pilatus,—the mountain of Pontius Pilate.

It is haunted by the unquiet ghost of the old Roman governor who has hung about the place nearly nineteen centuries, and who in his remorse over Christ's crucifixion has found no spot on earth where his body could rest. During the Middle Ages nobody dared climb the mountain for fear of disturbing its dreadful tenant. And Pilate's was not the only hospitality to be avoided, either. One day, some five hundred years ago, an honest fellow of Lucerne, wandering too far up the mountain pastures, fell through a rock-crevice into the cave of a fiery dragon, the kind with a long tail, wings, claws, jaws and all that sort of thing. After some months he escaped by clinging to the tail of the monster one fine morning when it flew out for an airing. This, and other gravely accredited stories, are all set down in books about Lucerne.

Among the many books which make these stereographs yield their fuller measure of meaning, and so multiply your enjoyment of them, are—to mention a few of the most generally accessible:—

"The Rise of the Swiss Republic;" W. M. McCrackan.
(*Accurate, well-written history.*)

"Teutonic Switzerland;" W. M. McCrackan.
(*Delightful account of places, manners and customs hereabouts.*)

"The Regular Swiss Round;" Rev. H. Jones.
(*Unpretentious but admirable book of travel covering this region.*)

"A Little Swiss Sojourn;" W. D. Howells.
(*Characteristically clever and entertaining comments on people and things.*)

Of course you know Schiller's famous drama, "Wilhelm Tell," and Sheridan Knowles' old play of the same name. You will find it worth while to refresh your memory of Longfellow's "Golden Legend," where Prince Henry and Elsie pass through Lucerne on their way toward Italy. And, if you have any proper sense of humor, you will enjoy Daudet's deliciously droll story of "Tartarin on the Alps." Tartarin climbed the Rigi to see the sun rise!

It goes almost without saying that the Swiss guide-books of Baedeker and Murray are veritable mines of information in regard to this enchanting part of "the playground of Europe."

LEAVES FROM A STEREOSCOPIST'S NOTE BOOK.

THOMAS BEDDING, F. R. P. S., Editor of "The British Journal of Photography."

I. UNBLISSFUL IGNORANCE.

I WAS recently travelling on the London and South Western Railway, near Windsor, (England). The compartment was full of gentlemen who, from their appearance and dress, might reasonably be taken for men of education and experience. In the prime of life and with that indefinable air of modernity which speaks, more plainly and clearly than words, of contact with the movement of the hour, they would have struck an average Englishman as persons likely to have at least a superficial acquaintance with that great democratic art, photography, in at least the principal aspects of its own wonderful, ever-changing, phase-existence. For in these days of generality and superficiality of knowledge, the individual of parts is assumed by his fellows either to be a specialist in one well-defined sphere of activity—or to know a little of everything.

But on that bright autumn morning as the train sped towards London through the soft, placid, green valley of the River Thames, a surprise was in store for me. As I sat in my corner of the compartment examining a few stereoscopic curiosities, the eyes of my travelling companions were turned in curiosity towards me. By way of acknowledgment, I handed round for inspection the rarest and most interesting of my little treasures: a stereoscopic daguerreotype portrait, perhaps the most beautiful and satisfying form of photograph yet produced—satisfying, that is, because the longer one keeps a daguerreotype the more one seems to prize and value it for its own special qualities.

Not one of my travelling companions had ever seen a daguerreotype before; much less a binocular portrait by the process. Their admiration of the picture was unbounded. One gentleman hazarded the opinion that it (the daguerreotype) was "something that was invented before photography itself." It had to be explained to him that a daguerreotype was in reality a photograph. As the homely phrase runs, "one thing led to another," and I discovered that my friends had often seen stereoscopic paper slides—one had *heard* there were such things as stereoscopic photographs on glass—but not one of them had ever seen a stereoscopic photograph through the stereoscope. Their friends, wives and children possessed "snap-shot" cameras: but they themselves remained in the outer darkness of ignorance of the most fascinating and enthralling productions of photography, ancient or modern, good stereoscopic photographs.

The fact is: a new generation has arisen in England since stereoscopic photography was in its heyday. Amateur photographers of the more serious and painstaking kind

have long made binocular work a hobby; but to the great non-photographic public stereoscopic photography has been, until recently, a lost art, which enterprising explorers are now happily engaged in rescuing from the ruins of a photographic Mycenæ (if the expression be permissible) and restoring it in all its pristine elegance to its proper place in the world of modern photography. It is of the restoration or revival that I desire to say a special word.

II. THE GREAT REVIVAL AT LAST.

Ever since I have been connected with photography, now nearly a quarter of a century, English photographers have sighed for the revival of stereoscopy. It was left for the publishers of this magazine to make that revival a practicability not merely in one country, but in all. Aside from their value to the traveller, the teacher of geography and the library student, the world's stereoscopic chart, if I may so designate the library which you have organized at such great outlay of time, effort and expense, will probably excite so much interest amongst the intelligent and educated classes that a stimulating effect in other directions may be fairly expected. The force of example will convert the possessors of these enchanting libraries into stereoscopic photographers themselves. Once the taste for binocular photography is acquired it is never lost.

I am waiting for that *rara avis*, the lady stereographer. I have never met one yet; but when she appears she is sure to have many imitators amongst her charming sex. From the ladies to stereoscopic portraiture is an easy and obvious transition. The splendid and life-like "at-home" stereographs of the late President McKinley and Mrs. McKinley, which were given in an earlier number of this magazine, point the way to possibilities in this direction which await exploitation. Here in England I have very frequently judged stereoscopic competitions in which the subjects have been landscapes, animals, architecture, outdoor figure subjects and scientific specimens. But seldom, if ever, have stereoscopic "at home" photographs come before me. And yet perhaps nothing is more pleasing than a photograph of this kind; whilst the difficulty of producing it, in these days of rapid plates and lenses of large aperture, is small.

It might be mentioned for the information of non-professional readers of this magazine that the retouching of stereoscopic negatives implies absolute identity of touch on both halves of the plate—a thing not perhaps realizable in practice. An obvious method of retouching portrait stereoscopic negatives is to retouch the sitter before the expo-

sure—a French method of doing things, never, so far as I am aware, adopted in England.

III. THE FOOT RULE IN STEREOGRAPHY.

An important factor in the present attempt to repopularize stereographs lies in the intelligent use of that invaluable instrument, the foot rule. In taking the negative, the distance of the nearest prominent object may have necessitated the separation of the objectives to three and a half or four inches; but in the mounted prints the separation of the foreground centres should never exceed three inches. If they are appreciably under, so much the better for the person ordinarily constituted as regards the width of his eyes. One of the most noted professional stereoscopic photographers of my acquaintance always takes his subjects (near and far) with a lens separation of three and three quarters inches; but his prints are mounted with a separation of foreground centres at two and seven-eighths inches. In the near objects he gets exaggeration of relief, a defect which I have more than once pointed out to him. His excuse, however, is that the public like to see slides in high relief. Nevertheless, the falsity of this method of presenting stereoscopic photographs soon becomes so apparent and objectionable that educated people are easily persuaded to discount the results.

It was the same friend who, some years ago, was denied the opportunity of taking a stereoscopic photograph in the grounds of one of the open air exhibitions held in the West End of London. A man of resource, he gained access to a neighboring house and took one negative of the scene from a window at the left; and the second negative from the window at the right. In this case he was working at a base line of the parallactic triangle of several feet, and the result was that when the prints were mounted, the picture upon examination in the stereoscope looked like a little model in itself. Much the same sort of effect was observable in the celebrated binocular view of Paris, in which the two separate views were taken from the towers of Notre Dame.

The mounting of prints at too wide centres—that is, over instead of under three inches—has been, in my somewhat lengthy experience of stereography, such a great obstacle in the popularization of this kind of photograph that I lay special stress on the necessity for attention to the point. The admired pictures by the stereokromoskop of Mr. F. E. Ives were immensely popular in this country not alone for the marvellous beauty of the results themselves, but largely by reason of the fact that they were taken at near centres and viewed through an instrument in which the centres of the oculars were not wider, if I remember aright, than two and a half inches. Thus there was no

physical strain upon the eyes of the observers. It is this disadvantage which should be obviated in paper slides if they are to be easily and correctly appreciated by the public.

IV. THE IDEAL PRINTING PROCESS.

There has recently, in England, been a reactionary movement in favor of albumen paper prints for contact work, but at present, for various reasons, the chances of a strong revival in working the process are not great. In the preparation of paper slides albumen printing has *always* been my favorite. Gelatine and collodio chloride papers do not give prints which are physically the most suitable for stereoscopic slides. In consequence of the enamel-like surface, they are easily scratched, and with little handling take on a shop-worn appearance. Even the moisture of the fingers when handling gelatine paper prints will discolor the parts touched, and the action of the atmosphere and light also have a deteriorating effect on the prints.

Dismissing gelatine and collodio chloride, therefore, from further consideration, one may briefly glance at the use of developed bromide prints for stereoscopic slides. Beautiful as the range of monochrome black, obtainable in these papers in single prints, may be, their very excellencies disqualify them for stereoscopic slides. A cold-toned print, with marked high lights, when examined binocularly, lacks the very characteristics which a stereoscopic print should have, to be in the highest degree successful. What is required is a surface stopping appreciably short of the high gloss and brilliancy of gelatine with perfect transparency in the shadows and a complete range of gradation from the lowest to the highest tones without patches of white in the latter. The color—or tone of the print—should be warm and produced by the alkaline gold bath and separate fixation. A print of this sort makes the beau ideal stereoscopic slide and it is obtainable to perfection on albumen paper, whose physical qualities again come into play in the finished print, which may be handled with impunity for years without fear of injury to the film.

As one who learned photographic printing on albumen paper, I always look with a loving eye upon this process, and especially the rich images it yields for stereoscopic examination. Experimentally, I have worked with other print and developing paper for the purpose; but these latter sometimes evince a tendency towards greenness of deposit, which is most objectionable. My collection of slides dates back to the days of G. W. Wilson, Blanchard, England, and other old workers of the past. With few exceptions they are as fresh and beautiful to-day as ever they could have been; and what is more, like the daguerreotype portraits already spoken of, the pleasure of examining them increases with time.

This is a respect in which the albumen stereoscopic print excels over not only the greenish black bromide print, but also collotype binocular reproductions. For the true explanation of the fact that of all classes of binocular prints none have retained their popularity as long as those produced on albumen, some explanation of a physiological nature might conceivably be sought. But there the fact stands. It is surely remarkably that after a lapse of fifty years the most admired printing process in stereography should be the one that was originally resorted to in the day when paper slides first came into vogue.

VI. STEREO-TELEPHOTOGRAPHY.

The taking of stereoscopic photographs of very distant objects was illustrated in the case of the celebrated stereoscopic view of the moon by de la Rue, who made his two exposures from a base line of over 180,000 miles. During the past few years telephotography has achieved wonders in the delineation of distant objects on the sensitive plate; views situated forty five and even ninety miles away from the camera having thus been obtained. It is conceivable that binocular telephotographs, suitably reduced, would yield a remarkable effect of distance, and the experiment is possibly worth trying.

VII. L'ENVOI.

No branch of photography affords more pleasure and satisfaction to a thoughtful person than stereography. It is a scientific method of conveying to the mind a realistic and accurate representation of an object seen under its

natural conditions. To life it imparts a mystic pleasure which endures so long as the greatest of all human gifts—sight—remains to us. The studious photographer who takes up binocular work and follows it out patiently and conscientiously will find that it leads him on to an examination of the phenomena of sight, light and vision, which will afford him never ending material for reflection and interest. Speaking personally: When all else fails me: when work palls: books tire: and friends vex—when the mind is weary and the body tired: when life itself seems stale and purposeless—I sit in my chair with a little pile of stereographs in front of me. Then as the world on the printed paper is made real, solid, deep, and distant to the sense of sight, the soothing charm of forgetfulness to all externals creeps over me and, in the fairyland of Simulation before me, I become oblivious to all the carping cares of the life that exists outside this simple double print “sculptured by the sun.”

“It should be always kept in mind that negatives full of detail, soft rather than crisp and contrasty, are preferable for stereoscopic purposes, and also that prints from them seem flat and unattractive, wanting in vigor, as a rule prove more satisfactory in the stereoscope than those that are more pleasing to the eye alone. The latter often prove harsh, when the so-called ‘snowy’ effect, in the instrument, from which the former are free, whilst they render all the wealth of detail of the negative.”—*Chas. F. Hines, Ph. D., “The Photographic Times,” February, 1902.*

ONE YEAR OF LIFE.

This March or Easter number concludes the first volume of THE STEREOSCOPIC PHOTOGRAPH. In view of the success which has attended the first year of its publication—always the most trying and perilous time in the life of a magazine, as it is of a child—the publishers take this opportunity to thank the many friends of this periodical for the constant and substantial support which they have rendered during the past year, in the form of subscriptions and advertisements; and also to the publishers of other periodicals, for the kindly and helpful notices which have appeared from time to time.

The publishers of THE STEREOSCOPIC PHOTOGRAPH also take pleasure in announcing that, after careful consideration, they have concluded to change the form of this quarterly to regular magazine size. This change is made in response to numerous requests for the same, which have come from both

agents and subscribers, who have urged it on the ground that the magazine when mailed in tubes is often received by them with the covers cracked, and, moreover, that the smaller size would be more convenient for carrying about, and more suitable for binding. The publishers believe that the new form, which will begin with the next number, will facilitate the work of handling and mailing from this office, and it will also admit of the magazine being mailed flat, to insure its arrival in good condition. The Magazine will not deteriorate either from a literary or an artistic standpoint on account of this change, for while the size of the pages will be reduced two inches, the number of pages will be correspondingly increased. We bespeak for THE STEREOSCOPIC PHOTOGRAPH in its new form, the same generously appreciative reception which has heretofore been accorded to it.

THE SCIENCE AND ART OF STEREOSCOPIC PHOTOGRAPHY.

BY THEODORE BROWN.

INTRODUCTION.

IN looking at a landscape with two eyes the impression conveyed to the mind of the observer is that of a single impression; but on close investigation we find that such a sensation is really the product of two dissimilar retinal impressions, one being received on the retina of each eye.

Now, although we cannot attempt to describe the precise way in which such retinal impressions are simultaneously carried by the optic nerve to the brain, and there appreciated as a solid, we have sufficient knowledge of the eyes' optical system to enable us to say, with certainty, how the eyes move by muscular control and adapt themselves for single and distinct vision with two eyes.

It is not surprising that from our infancy up we have been accustomed to regard the double impression as single, when we remember that many of the changes that take place in the eyes, during the process of viewing a collection of objects, are involuntarily performed. We might mention, in passing, the instinctive contraction of the iris as the eye is brought under the influence of excessive light, and its dilation or enlargement of the pupil, as the light decreases; again, the modification in shape of the chief refracting humor (crystalline) as distant and near objects are successively observed; and finally, the mysterious reference of retinal impression to the brain.

measure impart to his mind a sensation such as the original produced.

When we begin to consider what is necessary in a pair of stereoscopic photographs, in order to produce a proper relief in the stereoscope, we are essentially driven to a careful study of the eyes.

So similar is the work accomplished by means of the photographic camera to that of perceiving an object with the eye, that the latter has been compared with the former. But we are inclined to think that a reversal of such comparisons would serve to show how far some camera makers have wandered in the design of their instruments from this more perfect refractor of light (and we say this not ignorant of the fact that the eye, strictly speaking, is not achromatic and efficiently corrected for spherical aberration).

This noble organ of sight, termed as it has been, "a perfect and complete world of wonders," offers for our investigation an inexhaustible store of optical agreements.

Though the student of physiology is confronted here with problems difficult to solve, and the optician observes strange phenomena beyond his powers of explanation, the stereoscopic enthusiast may still find a general knowledge of its structure and use of material assistance in practical work. Roughly speaking, what the photographer is able to do by means of his camera, plates and chemicals, every observer instinctively accomplishes by means

of the eye, nerves and brain.

The operator in the first instance uncovers the lens of his camera, and lets in the light, which affects the sensitive plate. He then closes the shutter, and under cover carries the impressed plate to the dark room, where by suitable chemicals he develops the impression till it becomes a visible image.

In the second instance the common observer uncovers the eye by raising the lid (shutter), lights emanating from various objects pass through the crystalline lens and ramify the retina (sensitive plate), the eye is closed, the impression transmitted through the optic nerve to the back of the skull (the dark

room), where it is brought under the influence of the brain for development.

CHAPTER I.

DIMENSIONS AND POSITION OF EYES.—MODE OF SEEING WITH ONE EYE.

As we have already intimated, there is a close relationship between the laws of binocular vision and those controlling the perception of relief in the stereoscope.

It is to our advantage to be well acquainted with the former, so that we may proceed with a greater certainty of success in photographic work.

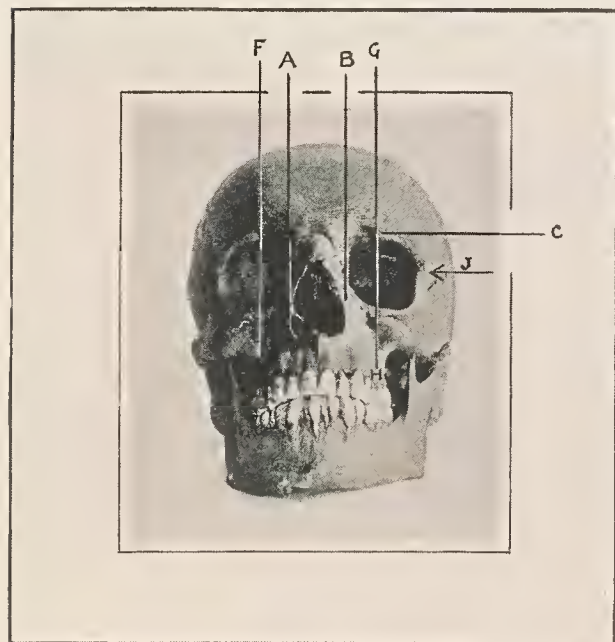


FIG. 1.

We shall have more to say in reference to these changes in a later chapter.

There is no doubt but that fewer mistakes would be made by photographic artists in the selection and treatment of subjects, had they a clearer understanding of the laws which govern binocular vision; and it is because we believe a surer foundation cannot be laid than a clear conception of these laws, that we venture to dwell at some length on the structure and working of the human eyes.

It is true that nature may be imitated in a variety of ways, but no material imitation of her beauties may truly be called a success until the copy is such as to deceive the observer, and in some

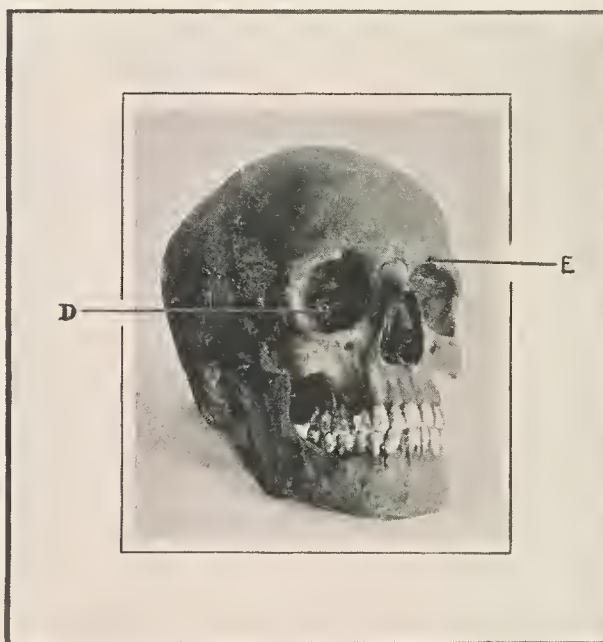


FIG. 2.

Our eyes have been elevated to the loftiest position of our frame that we may have the most comprehensive view possible of our surroundings.

Figs. 1 and 2 are photographs of the skull of an adult person. On close examination we find the diameter of the eye sockets to be one and three-eighths inches. As the eyes themselves measure only one inch from the outside of the sclerotica, it will be seen that there is some space around them. This space is filled up with a soft and delicate kind of fat, forming cushions on which the eyes may rest and comfortably turn by muscular control.

On close examination of the interior surface of the sockets, we find at the back of each, and on the side nearest the nose, a small round hole (shown at the end of the line D, in Fig. 2). The diameter of this hole is about three-sixteenths of an inch. It is through this hole that the optic nerve passes from the back of the eye-ball to the brain. If we draw vertical lines through the centre of these nerve openings in the manner shown in Fig. 1 at A and B, we shall find the distance between their centres to be exactly one and one-sixteenth inches.

Whilst vertical lines drawn at F and G, which will cut through the centres of the eyes, show that the distance between the axes is about two and three-eighths or two and a half inches. For the purpose of turning the eyes in any direction, each eye is furnished with six muscles, four direct, and two oblique. One of the oblique muscles, before attaching itself to the sclerotica, passes over a kind of bony hook or pulley formed at the top of the socket.

Now suppose the eyes to be in their proper positions in the sockets, if we were to cut the left eye exactly through the centre, at the line G and H, Fig. 1, and then take a sectional view as seen when looking in the direction of the arrow J, we should have a diagram as shown in Fig. 3, with all the principal parts exposed to

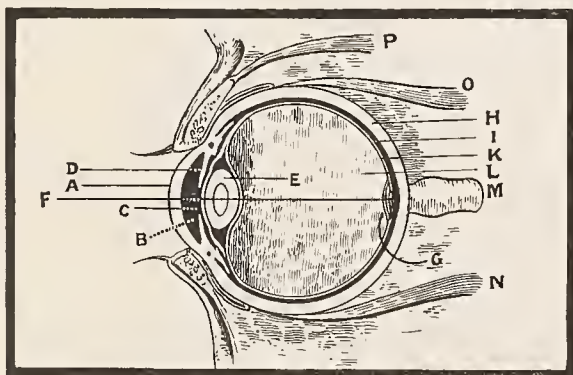


FIG. 3.

view, being as follows: A, cornea; B, aqueous humour; C, pupil; D, iris; E, crystalline humour; F, axes; G, base of the optic nerve; H, sclerotica; I, choroid; K, retina; L, vitreous humour; M, optic nerve sheath; N, muscle; and P, muscle to raise the top lid.

It would be superfluous to give here an exhaustive description of every part, as such information may be gathered from other sources. It will suffice to bear in mind the comparison which we have already made between the eye and the photographic camera.

Let us now consider the conditions necessary for distinct vision in the single eye. Briefly, the eye may be regarded as an optical instrument, based on the principle of refraction. The humour known as the crystalline lens (shown at E), is the chief medium for collecting and transmitting to the retina, K, rays of light emanating from every luminous object before it, so that whilst a large number of pencils are received through the pupil, they are all brought to a focus upon the retina, whence the im-

pression is carried by the optic nerve to the brain.

A moment's reflection upon the laws of refraction will suffice to show that unless the lens E has the power either to vary its distance from the retina, or to modify its shape, and thereby alter its focal length, objects situated only at one plane will be seen distinctly.

Sir David Brewster thought the former change took place, but recent experiments have shown beyond doubt that the latter change, *i. e.*, the crystalline lens alters its shape and thus adapts its focal length according to the distance of external objects.

Reference being made to Fig. 4, the eye, A, shows the

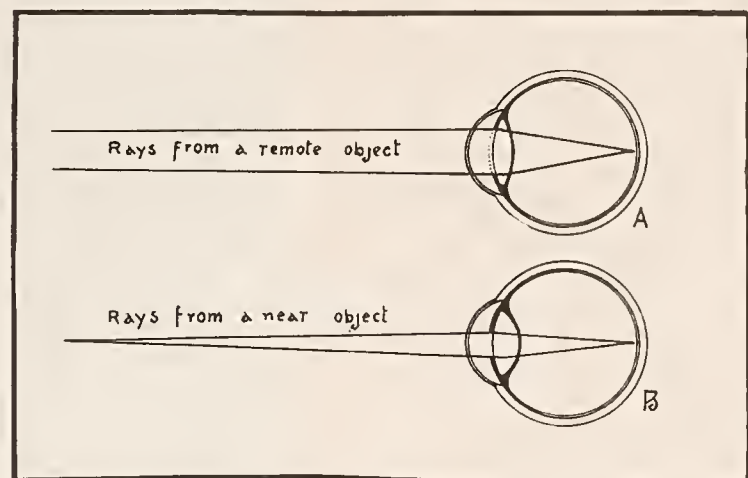


FIG. 4.

adjustment for a distant object, whilst B shows the adjustment for near objects. In addition to the modification in the curvature of the lens, we note also that the iris in the first instance is considerably dilated, whereas in the second instance it has become considerably contracted.

This adaption of the eye to different distances we have already spoken of as one of the changes involuntarily performed, and it is only in this way we can account for the fact that few people seem to be aware of the change.

Should the reader desire to see the process take place in his or her own eye, there is no better way than to proceed in the following manner: Cut a small hole one-eighth of an inch in diameter in a piece of paper or card-board, and hold it a few inches from one eye, with the other closed. Observe some distant object through the hole, and having noticed its nature, without moving the head, turn the attention from the remote object to a point on the edge of the hole. It will be seen at once that the image of the distant object has become blurred, so much so, that had it not been previously examined its nature could not be determined. The accompanying diagram, Fig. 5, clearly shows the reason of this

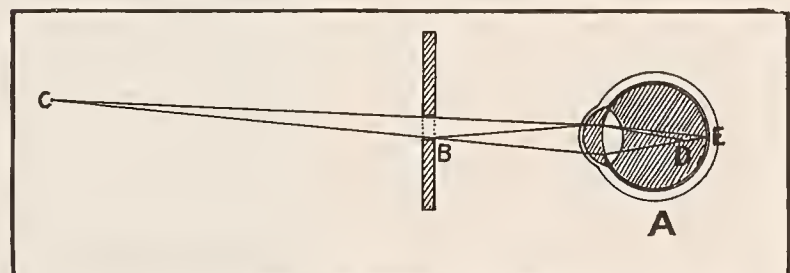


FIG. 5.

Whilst the eye, A, is accommodated to the point B, rays emanating from the remote object C, are brought to a focus within the eye at D, so that an indistinct image of it is formed upon the retina E.

These changes in the optical combination of the eye are important inasmuch as they determine the nature of the retinal picture, and it is obvious that as only one plane can possibly be in focus at the same moment, the composition of the retinal picture must be made up of a number of images, more or less distinct according to the distance of the object from the observer's eye.

Figs. 6 and 7 show the changes which take place in the retinal



FIG. 6.



FIG. 7.

picture as the eye accommodates itself to different planes. If we look at Fig. 7 with one eye only, our attention is naturally directed to the rose, that being situated at the plane in focus. We are, moreover, conscious of the effect of relief, due to the fact that such a picture in black and white is as near as can possibly be to the picture produced on the retina whilst looking at the real thing in nature. On opening the other eye this pleasing sensation leaves us. The fact is, as far as the viewing of a single picture is concerned, whether it be a photograph or a painting, we may advan-

tageously dispense with the use of one eye, for it is the second member which informs the mind that all objects in a painting or photograph are situated at one plane and at one distance from the observer's eye. Hence the realism of a single picture will always be reduced under binocular observation. But to return to the changes effected by accommodation as shown in Figs. 6 and 7.

In our photographic work we cannot afford to leave out of our calculation this variation in the retinal picture, for upon a clear conception of these facts rests much of our success in reproducing nature as we see her.

Herein lies the secret of that power to direct the attention of the observer to any particular object in our photograph. We cannot forbear quoting here the words of the great American, Emerson. He says: "The virtue of art lies in detachment, in sequestering one object from the embarrassing variety. Until one thing comes out from the connection of things, there can be enjoyment, contemplation, but no thought. It is the habit of certain minds to give an all-excluding fullness to an object, the thought, the word they alight upon, and to make that for the time the deputy of the world. These are the artists, the orators, the leaders of society. The power to detach and to magnify by detaching is the essence of rhetoric in the hands of the orator and the poet."

How applicable are these words to the wonderful performances of nature within the human eye. As the varying degrees of light impinge upon its surface, there is a graceful response to its influence, its mechanism detaching for the time the object of immediate attention from its less important surroundings, instinctively giving an all-excluding fullness to that object, and thus carrying to the mind of the observer a clear and full impression of what he sees.

[This article will be continued in our next issue.]

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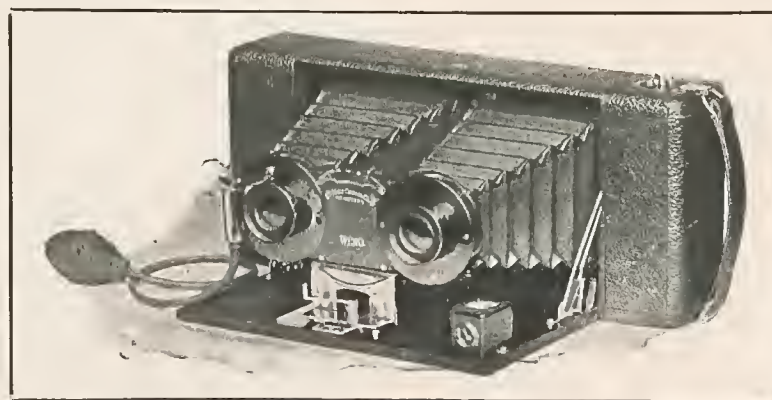
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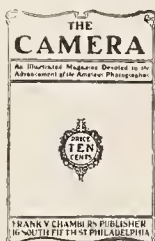
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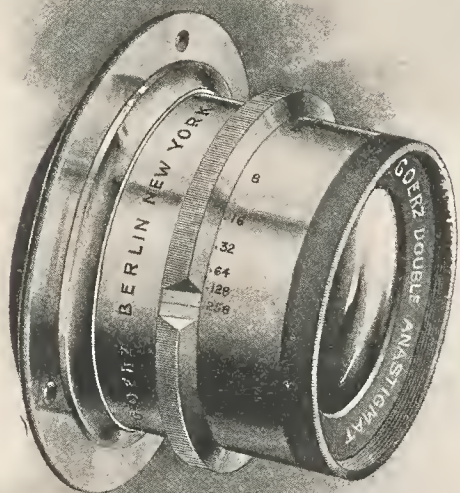
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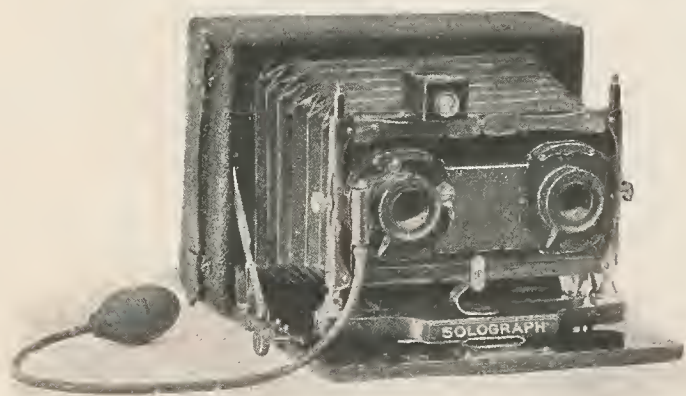
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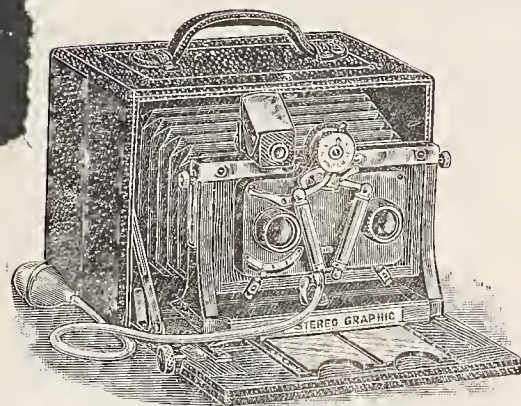
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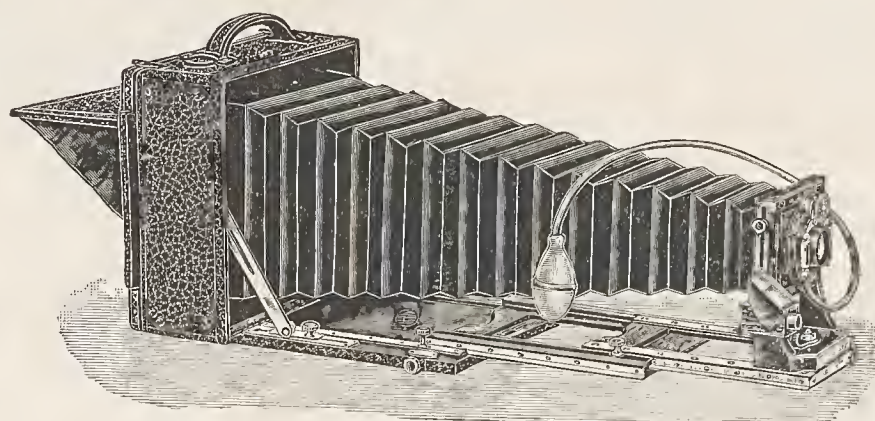
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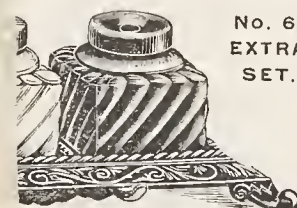
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